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# Agriculture of Vermont

## 43rd Biennial Report

of the

## Vermont Department of Agriculture

## 1985 and 1986

**Paul A. Stone, Commissioner**

SEAL OF QUALITY
Vermont
DEPARTMENT OF AGRICULTURE

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# From the Commissioner

The Agriculture Department accomplished several important objectives during the period covered by this report and I was privileged to be a part of the process. Among other things, the department instituted a beef grading program, stregthened commodity promotion and development programs and took over reponsibility for ensuring the content of feed and fertilizer sold to Vermont farmers and consumers.

The department set up a pesticide monitoring program, drafted and supported revision of the laws affecting nurseries and helped set up the Family Farm Loan Program. We published an agricultural development policy and strongly supported the establishment of the Regional Cooperative Marketing Agency to secure higher milk prices for our farmers.

We worked hard to secure industry support for a regional dairy products research center at the University of Vermont and supported legislation to establish an apple marketing order, to redraw the meat and poultry inspection laws, the equine infectious anemia law and the livestock import and export law. We broadened the Seal of Quality program to include more products and stregthened our links with the University of Vermont College of Agriculture and Life Sciences and the UVM Extension Service.

The people of this department work very hard to serve the interests of the agriculture community and the welfare of the state's consumers as well. Vermonters could have no better public servants than these, and I am proud to have been associated with them.

Paul A. Stone,
Commissioner of Agriculture

# Dairy and Animal Industry Division

The dairy industry throughout the nation continues to produce an oversupply of milk, resulting in a downward pressure in the price paid to dairy farmers for their milk. The United States Department of Agriculture administered the Dairy Diversion Program from January 1984 through March 1985. This program gave dairy farmers the opportunity to collect ten dollars per hundredweight for reducing their milk production from between 5% and 30% during the 15-month period. Vermont dairy farmers reacted with a 14% sign-up for the program which resulted in approximately 3% reduction in milk production in Vermont. The program proved to be short-term, with milk production increasing rapidly in Vermont and elsewhere throughout the country after it ended.

A second federal program aimed at reducing milk production was started in 1985. The Dairy Termination Program invited dairy farmers to bid on milk not produced. If accepted into the program, they had to agree to sell their dairy cows for slaughter or for international export and not to re-enter dairying for at least five years. The program accepted bids up to $22.50 per hundredweight of milk. Dairy herds were dispersed over an 18-month period starting in 1986. One hundred ninety-seven Vermont dairy farms were selected for the program.

During 1985 Vermont dairy farmers produced 2,155,645,245 pounds of milk. Approximately 49.73% of that milk was shipped out of Vermont as fluid milk; 5% was consumed within the state as fluid milk; 46% was manufactured into cheese products with approximately 13% made into cheddar, 31% into foreign type cheese, and 1% made into cottage cheese. The remainder of the product was manufactured into dry milk powder, butter, condensed or evaporated milk, ice cream, and yogurt.

Charts of milk disposition and production for 1984 and 1985 are included in this section and in the appendix.

To increase the profitability of Vermont dairy farmers and to improve milk quality in the marketplace, the Dairy Inspection Service established the Milk Quality Enhancement Program to assist dairy farmers with mastitis control. This is a cooperative program with the University of Vermont and the U.V.M. Extension Service lending technical and educational assistance and industry fieldmen and dairy equipment installers identifying and assisting dairy farmers in need. The program is unique in comparison to other state programs in that it enlists private veterinarians to make recommendations and give treatment regarding all aspects of herd health on dairy farms in the program. The program started in March 1985. The following is a synopsis of the success of the program showing overall somatic cell counts on farms that requested assistance during the first six months of the program, March-August, 1985.

## Vermont Dairy Industry Council

The Vermont Dairy Industry Council administers the promotion assessment on milk produced in the State of Vermont and sold out of the state. The funds are used for advertising, promotion, research, and administrative costs for the distribution of these functions in the dairy field. The bulk of these funds are allotted to Milk Promotion Services Inc. with other smaller allocations to the Vermont Milk Flavor Program, Green Mountain Dairy Promotion Inc., and Vermont Agricultural Enterprises.

During the past two years the Vermont Dairy Industry Council formed a Futuristic Marketing Committee to look into promoting premium quality Vermont dairy products throughout our marketing area. The council also voted to set aside $160,000 in a contingency fund for possible use in promoting value-added products. The Futuristic Marketing Committee recommended, and the council concurred, that the contingency monies would be spent to buy more equipment to enhance the New England Dairy Research Center at the University of the Vermont and for research into improvement of a sundae-style yogurt. With the start of a new fiscal year, the council voted to establish another contingency fund of $45,000 for possible use in continuing research of new or improved dairy products.

### VDIC STATEMENT

| | FY 1985 | FY 1986 |
|---|---|---|
| Receipts Received | $1,707,705.86 | $1,737,931.07 |
| Balance Available | $1,707,705.86 | $1,737,931.07 |
| **Administrative Costs** | | |
| Board, Admin. Salaries | $2,648.00 | $2,205.00 |
| Clerical Salaries | $3,440.00 | $3,576.48 |
| Fringe Benefits | $891.88 | $990.70 |
| Board, Admin. Expenses | $1,315.12 | $802.73 |
| Equipment Purchase | $22,500.00 | -- |
| Total Administrative Costs | $30,795.00 | $7,574.91 |

| | FY 1985 | FY 1986 |
|---|---|---|
| **Advertising Contracts and Agreements** | | |
| University of Vermont | --- | $2,850.00 |
| Milk Promotion Services | $1,588,298.86 | $1,673,844.16 |
| Market Development | $82,112.00 | $36,162.00 |
| Vt. Agricultural Enterprises | $3,000.00 | $1,500.00 |
| Green Mountain Dairy Promotion | $3,500.00 | $7,000.00 |
| Milk Quality Enhancement | -- | $9,000.00 |
| Total Advertising & Agreements | $1,676,910.86 | $1,730,356.16 |
| **Total Expenditures** | **$1,707,705.86** | **$1,737,931.07** |

## State Dairy Council

The State Dairy Council administers the milk promotion assessment imposed on procedures and dealers on all milk sold for consumption in the state of Vermont and the license fees collected by the Vermont Milk Control Board. The bulk of the funds are allocated to the Dairy Council of Vermont, with other smaller allocations to the Vermont Milk Flavor Program, Green Mountain Dairy Promotion Inc., and a brand advertising program designed to help local dairy plants in promoting their own brand products.

The State Dairy Council meets jointly several times throughout the year in conjunction with the Vermont Dairy Industry Council (out-of-state milk promotion program) as most of the promotional efforts of the contracting agencies involve similar activities.

The cost of operating programs sponsored by the State Dairy Council have exceeded anticipated revenues, causing the council to cut some budget requests. Revenues remain fairly constant to the State Dairy Council as they are based on milk consumed in the state.

### 1984 Receipts for Milk by County

| County | Lbs. Shipped | Price/cwt | Value |
|---|---|---|---|
| Addison | 320,714,364 | $13.41 | $43,020,039 |
| Bennington | 91,787,403 | $14.06 | $12,906,730 |
| Caledonia | 98,791,056 | $14.23 | $14,059,967 |
| Chittenden | 130,443,867 | $13.70 | $17,875,583 |
| Franklin | 469,766,246 | $13.45 | $63,177,197 |
| Orange | 145,116,246 | $13.88 | $20,139,278 |
| Orleans | 489,810,523 | $14.03 | $68,710,937 |
| Rutland | 143,441,364 | $13.29 | $19,065,000 |
| Washington | 302,809,244 | $13.63 | $41,262,773 |
| Windham | 48,499 | $12.99 | $6,301 |
| Windsor | 53,713,0 | $14.03 | $7,537,422 |
| Total | 2,246,442,195 | $13.70 | $307,761,227 |

### 1985 Receipts for Milk by County

| County | Lbs. Shipped | Price/cwt | Value |
|---|---|---|---|
| Addison | 347,522,392 | $12.70 | $44,127,968 |
| Bennington | 91,612,236 | $13.52 | $12,382,882 |
| Caledonia | 105,118,948 | $13.53 | $14,226,162 |
| Chittenden | 136,504,486 | $13.00 | $17,749,547 |
| Franklin | 466,022,779 | $12.71 | $59,211,052 |
| Orange | 127,025,922 | $13.21 | $16,783,346 |

| | | | |
|---|---|---|---|
| Orleans | 481,007,457 | $13.27 | $63,846,926 |
| Rutland | 160,597,418 | $13.69 | $21,989,939 |
| Washington | 181,783,956 | $13.31 | $24,199,408 |
| Windham | 0 | 0 | 0 |
| Windsor | 58,449,651 | $13.12 | $7,669,678 |
| Total | 2,155,645,245 | $13.09 | $282,186,908 |

**Distribution of Dairy Products - 1984**

| | Plants | Pounds |
|---|---|---|
| Fluid Milk Shipped | 22 | 1,095,967,145 |
| Fluid Milk into Cheddar Cheese | 9 | 226,764,439 |
| Fluid Milk into Foreign Type Cheese | 6 | 634,132,623 |
| Fluid Milk into Powder | 0 | 0 |
| Fluid Milk into Bakers/Pot Type Cheese | 2 | 11,107,185 |
| Fluid Milk into Ice Cream & Ice Cream Mix | 4 | 793,432 |
| Fluid Milk Sold Locally | 20 | 116,574,603 |
| Sweet Cream Shipped | 9 | 50,445,496 |
| Sweet Cream into Butter | 2 | 6,773,367 |
| Sweet Cream Sold Locally | 10 | 1,427,914 |
| Skim Shipped | 4 | 17,381,499 |
| Skim Condensed and Evaporated | 1 | 0 |
| Skim into Powder | 1 | 0 |
| Skim into Cottage and Soft Cheese | 6 | 19,211,279 |
| Skim Sold | 13 | 5,787,406 |
| Skim Otherwise Utilized | 3 | 513,318 |
| Low-Fat Milk Sold Locally | 11 | 32,767,751 |
| Whey into Powder | 2 | 43,095,395 |

**Distribution of Dairy Products - 1985**

| | Plants | Pounds |
|---|---|---|
| Fluid Milk Shipped | 24 | 1,072,069,490 |
| Fluid Milk into Cheddar Cheese | 9 | 297,212,091 |
| Fluid Milk into Foreign Type Cheese | 6 | 689,418,027 |
| Fluid Milk into Powder | 0 | 0 |
| Fluid Milk into Bakers/Pot Type Cheese | 3 | 3,526,588 |
| Fluid Milk into Ice Cream & Ice Cream Mix | 3 | 394,912 |
| Fluid Milk Sold Locally | 19 | 118,957,708 |
| Sweet Cream Shipped | 7 | 43,935,575 |
| Sweet Cream Made into Butter | 3 | 4,497,570 |
| Sweet Cream Sold Locally | 14 | 3,478,708 |
| Skim Shipped | 4 | 18,465,646 |
| Skim Condensed and Evaporated | 1 | 0 |
| Skim into Powder | 1 | 0 |
| Skim into Cottage and Soft Cheese | 5 | 20,332,483 |
| Skim Sold | 13 | 6,253,645 |
| Skim Otherwise Utilized | 8 | 2,535,243 |
| Low-Fat Milk Sold Locally | 12 | 40,728,030 |
| Whey into Powder | 2 | 50,064,590 |

**Fluid Milk Received in Plants and Percentage Shipped - 1984**

| County | Lbs. Received | Lbs. Shipped | % | Plants Receiving | Plants Shipping |
|---|---|---|---|---|---|
| Addison | 320,714,364 | 15,582,638 | 4.86 | 4 | 3 |

| | | | | | |
|---|---|---|---|---|---|
| Bennington | 91,787,403 | 90,925,732 | 99.06 | 3 | 3 |
| Caledonia | 98,791,056 | 81,577,370 | 82.58 | 2 | 1 |
| Chittenden | 130,443,867 | 2,387,316 | 1.83 | 4 | 2 |
| Franklin | 469,766,246 | 163,614,492 | 34.83 | 3 | 3 |
| Orange | 145,116,619 | 55,635,933 | 38.34 | 4 | 2 |
| Orleans | 489,810,523 | 342,326,047 | 69.89 | 3 | 3 |
| Rutland | 143,441,364 | 111,595,303 | 77.80 | 6 | 2 |
| Washington | 302,809,244 | 49,457,379 | 16.33 | 3 | 1 |
| Windham | 48,499 | 0 | 0.00 | 1 | 0 |
| Windsor | 53,713,010 | 182,864,935 | | 2 | 2 |
| Total | 2,246,442,195 | 1,095,967,145 | 48.79 | 35 | 22 |

**Fluid Milk Received in Plants and Percentage Shipped - 1985**

| County | Lbs. Received | Lbs. Shipped | % | Plants Receiving | Plants Shipping |
|---|---|---|---|---|---|
| Addison | 347,522,392 | 4,127,141 | 1.19 | 5 | 3 |
| Bennington | 91,612,236 | 93,478,959 | | 3 | 3 |
| Caledonia | 105,118,948 | 72,770,221 | 69.23 | 2 | 1 |
| Chittenden | 136,504,486 | 3,798,274 | 2.78 | 4 | 4 |
| Franklin | 466,022,779 | 150,366,237 | 32.27 | 2 | 2 |
| Orange | 127,025,922 | 93,169,397 | 73.35 | 3 | 2 |
| Orleans | 481,007,457 | 321,240,702 | 66.78 | 4 | 4 |
| Rutland | 160,597,418 | 116,861,336 | 72.77 | 6 | 2 |
| Washington | 181,783,956 | 26,037,807 | 14.32 | 2 | 1 |
| Windham | 0 | 0 | 0.00 | 0 | 0 |
| Windsor | 58,449,651 | 190,219,416 | --- | 2 | 2 |
| Total | 2,155,645,245 | 1,072,069,490 | 49.73 | 33 | 24 |

**VERMONT MILK CONTROL BOARD STATEMENT**

| | FY '85 | FY '86 |
|---|---|---|
| Balance Brought Forward | $12,342.78 | $17,623.31 |
| Assessment Receipts | 148,790.18 | 150,734.75 |
| Milk Control Board License Fees | 4,640.00 | 4,584.00 |
| Balance Available | $165,772.96 | $172,942.06 |
| **Administrative Costs** | | |
| Board members & Adminstrative Salaries | $2,348.00 | $2,055.00 |
| Clerical Salaries | 2,933.12 | 3,089.76 |
| Fringe Benefits | 799.96 | 875.42 |
| Postage | 520.41 | 875.42 |
| Dues | 25.00 | -- |
| Board Members & Administrative Salaries | 1,058.45 | 713.14 |
| Total Administrative Costs | $7,684.97 | $7,243.06 |
| **Allocations** | | |
| Milk Quality Enhancement | -- | $1,000.00 |
| Dairy Council of Vermont | 85,000.02 | 94,999.98 |
| Milk Promotion Services, Inc. | 40,422.08 | 33,274.25 |
| Dairy Market Development Program | 4,038.00 | 6,887.00 |

| | | |
|---|---|---|
| Green Market Dairy Promotion | 2,500.00 | 2,500.00 |
| Payment to Brand Advertising Committees | 8,504.61 | 13,635.28 |
| Total Allocations | $140.464.71 | $152,296.51 |
| **Balance Forward** | **$17,623.31** | **$13,402.49** |

## Livestock Section

Legislative action has delegated the authority and responsibility to the Livestock Section for implementing the following programs:

1. Enforcement of regulations regarding the health of animals and poultry imported from other states and countries in order to protect the animal and human population of Vermont from infectious and contagious diseases.
2. Eradication of bovine tuberculosis by area testing of cattle and by supervising tests for herd accreditation and interstate shipment of cattle and milk.
3. Eradication of brucellosis.
4. Eradication of hog cholera.
5. Control and eradication of miscellaneous infectious and contagious diseases of livestock and poultry.
6. Licensing, bonding and supervision of livestock dealers and commission sales.
7. Licensing and bonding of live poultry dealers.
8. Licensing and inspection of pregnant mare urine collection farms.
9. Licensing and inspection of garbage feeding to swine.
10. Regulation of importation and sale of psittacine birds.
11. Disinfection service.
12. Rabies control.
13. Animal Welfare Act.
14. Horse pulling.
15. Livestock branding.

As a result of departmental reorganization, general administrative direction for livetock disease control/ diagnostic programs falls under the director of Animal and Dairy Industries, except for the serology laboratory, which is under the authority of the director of Plant Industry, Laboratories and Standards.

Most livestock disease programs are cooperatively conducted with the United States Department of Agriculture, Animal & Plant Health Inspection Service. Historically, memoranda of agreement have called for roughly equal participation between the state and federal governments in areas of funding, equipment and personnel. However, USDA-APHIS over the past several years has decreased participation. It appears inevitable that responsibility and program scope will continue to increase for the state if present program levels are to be maintained. The magnitude of federal budget cuts and proposed cuts are more far reaching and severe than expected. To date, insufficient attention has been devoted to the area of staffing at the professional level.

Animal health programs are primarily continuing surveillance programs designed to maintain population overview and to pinpoint areas of major risk. Cooperative programs of this nature have, over the years, demonstrated outstanding success in detecting the index herd or flock in an initial disease outbreak. When such programs are properly staffed and adequately funded they will provide the safest, most cost-effective and dependable form of preventive medicine.

The effect of the Dairy Termination Program on disease surveillance is difficult to evaluate. It is anticipated that those operations still in business will import significant numbers of dairy cattle replacements in order to augment production. There should be minimal increased risk so long as market economics dictate that those replacement livestock come from states in the Northeast. More costs in surveillance would pertain if conditions dictate purchases South of New Jersey and Pennsylvania.

Reduced services by the Diagnostic Laboratory, Department of Animal Sciences, University of Vermont, will pose cost and technical problems for this department and industry alike. Basically, industry will be dependent for disease diagnostics on out-of-state laboratories.

### Brucellosis

Vermont has been designated free of brucellosis since July of 1982. Any state qualifying for this designation must have been free of disease in all species for the preceeding year as verified by a continuing series of surveillance testing. No field strain infection has been disclosed through testing and surveillance programs since that time.

Stringently applied surveillance procedures are a necessity for the forseeable future to ensure that the disease, if inadvertently imported, is confined to index herds as rapidly as possible. Occasional outbreaks must be anticipated while the disease is present in the United States. Explosiveness of spread in cattle populations makes brucellosis the

most dangerous disease of cattle in the country.-

Brucellosis infection in humans is referred to as undulant fever and results in a severely debilitating disease.

The department has a regulation requiring brucellosis negative testing prior to transfer of ownership. Two information-gathering hearings were conducted by this department during the biennium in order to determine whether industry wanted to have the regulation repealed even though testing is an industry expense and no disease appears to exist; a predominance of testimony favored keeping the regulation.

### Bovine Tuberculosis

This state has been designated free of bovine tuberculosis since May of 1979. A legislatively mandated surveillance program has been in effect for many years. One-fourth of the herds in each county are tested annually on a four-year rotating basis. In addition, the laws of the state of Connecticut require that all milk entering its market originate from herds tested annually for tuberculosis. Persistent negotiations over several years may possibly result in a regulatory change requiring a three year testing cycle.

Bovine tuberculosis outbreaks in the United States generally result from international cattle movements due to extreme latency of the disease. Tracing an infection to its source is extremely expensive, often involving several states. Tuberculosis testing in Vermont has been conducted on fee basis, with practicing veterinarians contracting to do the work.

### Equine Infectious Anemia

Legislation passed in 1986 requires that horses test negative for equine infectious anemia prior to transfer of ownership. This legislation was introduced and supported by the horse industry. There is a mandate for the commissioner of agriculture to promulgate regulations concerning the testing, quarantine and identification of reactors, isolation procedures and testing of exposed animals.

### Avian Influenza

An outbreak of highly pathogenic avian influenza occurred in Pennsylvania, New Jersey, Virginia, Maryland and Delaware in 1983-1984. At a cost to USDA of $65,000,000 in Commodity Credit Corporation funds, the disease was thought to be eradicated in 1984. Through a reservoir in small "live bird" markets in large cities reinfection of poultry flocks reoccurred in the same general areas. This second outbreak revealed a less pathogenic virus

Several flocks in Vermont were in one way or another connected to flocks or to transporters of birds associated with infection. A number of flocks were placed under surveillance. Egg specimens were submitted weekly for laboratory culture attempting to isolate any possible virus. None was ever isolated in this state.

As a consequence of pathogenicity changes in the avian influenza virus, it has become necessary to rewrite regulations controlling outbreaks of the disease in Vermont. An emergency response plan has been developed to deal with an initial outbreak of A.I. in this state.

Four separate outbreaks of chlamydiosis (psittacosis) occurred in 1984-1986. Two involved the same store. All birds in each instance were quarantined after laboratory diagnosis and placed on a 45-day treatment regimen.

Chlamydiosis is contagious to humans. This department worked closely with the Department of Health in each instance. At least two human cases were confirmed. Possibly there were others.

Nationally, the number of human cases seems to be increasing. Vermont authorities have been pushing for a greater federal presence, but to date, neither the Centers for Disease Control or USDA has shown interest.

Both the American Veterinary Medical Association and United States Animal Health Association continue to press for greater recognition of this contagious disease and have requested repeatedly that a more stringent quarantine and thorough treatment of imported birds be undertaken.

This division has authority to inspect and set standards for proper handling of pets and livestock at fairs. Greater priority has been devoted during this biennium to fairs and field days examining health certification of all classes of livestock entering. Additionally there is a need for more attention to small pet welfare at exhibitions. All facilities at major fairs were disinfected by staff prior to admission of livestock.

This section is also being requested more often to advise and assist in ensuring that animals are properly fed and cared for. Most complaints arise during winter.

The following tables detail this section's disease testing activities.

**Brucellosis Blood Tests, Vaccinations**

| | Herds Tested | Animals Tested | Private Calf Vaccinations |
|---|---|---|---|
| 1984-1985 | 4,127 | 30,595 | 20,319 |
| 1985-1986 | 4,228 | 31,613 | 19,572 |

**Milk Ring Tests**

| | Calls Made | Samples Negative | Samples Suspicious |
|---|---|---|---|
| 1984-1985 | 371 | 32,311 | 3 |
| 1985-1986 | 395 | 34,076 | 47 |

**T.B. Area Testing**

| | Herds Tested | Cattle Tested | Suspects |
|---|---|---|---|
| 1984-1985 | 1,359 | 72,966 | 43 |
| 1985-1986 | 1,030 | 61,583 | 83 |

**Private T.B. Testing**

| | Herds Tested | Cattle Tested | Suspects |
|---|---|---|---|
| 1984-1985 | 2,214 | 13,070 | 12 |
| 1985-1986 | 1,297 | 12,741 | |

**Connecticut Milk Market Testing**

| | Herds Tested | No. Cattle Tested | Suspects |
|---|---|---|---|
| 1984-1985 | 2,086 | 123,254 | 91 |
| 1985-1986 | 823 | 56,026 | 62 |

**Private Testing of Goats**

| | Herds Tested | Animals Tested | Suspects |
|---|---|---|---|
| 1984-1985 | 19 | 107 | 0 |
| 1985-1986 | 22 | 191 | 0 |

**TB Area Testing of Goats**

| | Herds Tested | Animals Tested | Suspects |
|---|---|---|---|
| 1984-1985 | 2 | 4 | 0 |
| 1985-1986 | 3 | 31 | 0 |

**Summary Garbage Feeding Licenses**

| | Cooking Permits | Hogs Fed Garbage |
|---|---|---|
| 1984-1985 | 4 | 183 |
| 1985-1984 | 4 | 268 |

**Commission Sales Report**

| | Slaughter Cattle | Dairy Cattle | Calves | Horses | Other | Dollar Value |
|---|---|---|---|---|---|---|
| 1984-1985 | 23,892 | 4,373 | 50,346 | 386 | 5,895 | $14,414,570.89 |
| 1985-1986 | 24,063 | 1,855 | 50,637 | 368 | 5,655 | $12,847,047.85 |

**Cattle Imported, Exported**

| | From Canada | From Other States | Releases Issued | Exported |
|---|---|---|---|---|
| 1984-1985 | 2,310 | 3,185 | 1,192 | 4,229 |
| 1985-1986 | 2,846 | 3,839 | 1,421 | 3,708 |

**Livestock Dealers**

| | '84-'85 | '85-'86 |
|---|---|---|
| Resident Dealers | 88 | 8 |
| Non-resident Dealers | 33 | 27 |
| Commission Sales | 6 | 72 |
| Total Licenses Issued | 127 | 107 |

**Swine Blood Tested**

| | Herds | Animals |
|---|---|---|
| 1984-1985 | 4 | 56 |
| 1985-1986 | 5 | 12 |

**Goat Blood Tested**

| | Herds | Animals |
|---|---|---|
| 1984-1985 | 8 | 36 |
| 1985-1986 | 29 | 195 |

**Market Swine Tested**

| | |
|---|---|
| 1984-1984 | 684 |
| 1985-1986 | 739 |

**Backtags Applied**

| | |
|---|---|
| 1984-1985 | 58,506 |
| 1985-1986 | 68,933 |

**Poultry Testing**

| | Flocks | Chickens |
|---|---|---|
| 1984-1985 | 10 | 1,420 |
| 1985-1986 | 4 | 3,730 |

**Indemnity Claims**

| | Brucellosis | Tuberculosis |
|---|---|---|
| 1984-1985 | 1 | 3 |
| 1985-1986 | 2 | 4 |

## Meat Inspection Section

Vermont continues to operate an effective, efficient program. The state program, the only one in the Northeast, is 50% funded by the federal government. The state Meat Inspection Service provides ante-mortem, post-Mortem and processing inspection for any meats offered for sale within the state (other than federally inspected product), 2) surveillance and facility inspection of all custom slaughter and processing establishments to maintain sanitary requirements and assure that meat products originating from such establishments do not enter commerce, and 3) compliance and evaluation inspection of retail markets to determine that only inspected, wholesome, properly labeled meats, prepared under sanitary conditions, are offered for sale.

Six federal plants within the state are being staffed by state personnel under the cross-utilization agreement. The costs of the inspectors operating in these federal plants are borne by the federal government. This reimbursement further reduces the state's share of the meat inspection budget. Through this cross-utilization reimbursement, the taxpayers of Vermont in reality pay only about 35% of the total meat inspection budget.

This is only one example of the great effort to cooperate with the federal inspection program that has been very beneficial to both services. There is now an interchange of inspectors both routinely and inemergencies that makes the staffing of both federal and state plants more efficient.

Because of this degree of cooperation, it has been necessary to have state inspectors certified to perform federal tasks. All inspectors of the present staff of 10 are now federally certified and can operate as federal inspectors.

The statutes for meat inspection, unchanged since 1969, have been completely rewritten to comply more closely with federal statutes. This will result in more uniform application of the statutes and eliminate some areas of conflict between the two.The following tables detail this section's field responsibilities.

**Licensed Establishments**

| | 1985 | 1986 |
|---|---|---|
| Retail Markets | 1,160 | 1,188 |
| Commercial Slaughterhouses | 19 | 19 |
| Custom Slaughterhouses | 4 | 5 |
| Comm. Poultry Slaughterhouses | 4 | 4 |
| Custom Poultry Slaughterhouses | 2 | 1 |
| Commercial Processors | 25 | 28 |
| Custom Processorsd | 25 | 2 |
| Wholesalers | 38 | 43 |
| Renderers | 5 | 6 |
| Animal Food Manufacturers | 2 | 24 |
| Handlers | 9 | 8 |

**All Commercial Slaughter Activity - 1984/85**

| | No. Head | Pounds |
|---|---|---|
| Cattle | 3,696 | 1,964,566 |
| Swine | 3,55O | 697,139 |
| Sheep | 3,069 | 142,480 |
| Calves | 350 | 59,430 |
| Goats | 78 | 2,554 |

**All Commercial Slaughter Activity - 1985/86**

| | No.Head | Pounds |
|---|---|---|
| Cattle | 2,806 | 1,490,204 |
| Swine | 2,339 | 437,372 |
| Sheep | 2,041 | 88,843 |
| Calves | 271 | 43,954 |
| Goats | 68 | 2,105 |

---

**Custom Slaughter Activity - 1984/85**

| | No.Head | Pounds |
|---|---|---|
| Cattle | 776 | 375,180 |
| Swine | 898 | 164,005 |
| Sheep | 141 | 7,506 |
| Calves | 49 | 9,137 |
| Goats | 7 | 294 |

---

**Custom Slaughter Activity - 1984/85**

| | No.Head | Pounds |
|---|---|---|
| Cattle | 577 | 300,497 |
| Swine | 445 | 90,773 |
| Sheep | 169 | 8,288 |
| Calves | 37 | 6,563 |
| Goats | 18 | 487 |

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**Retail C&E Inspections**

| | |
|---|---|
| 1984 - 1985: | 1,930 |
| 1985 - 1986: | 1,360 |

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**Product Condemnation**

| | Retail | Processing |
|---|---|---|
| 1984 - 1985: | 548 lbs. | 597 lbs. |
| 1985 - 1986: | 14,068 lbs. | 259 lbs. |

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**Commercial Slaughter Condemnations**

| | |
|---|---|
| 1984 - 1985: | 14,753 lbs. |
| 1985 - 1986: | 11,806 lbs. |

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**All Slaughter Activity by Type**

| | Custom Production | Commercial Production |
|---|---|---|
| 1984 - 1985: | 1,029,933 lbs. | 791,056 lbs. |
| 1985 - 1986: | 1,691,324 lbs. | 380,584 lbs. |

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**Poultry Production**

| | |
|---|---|
| 1984 - 1985: | 548 turkeys, 1,105 ducks |
| 1985 - 1986: | 6,024 turkeys,787 chickens |

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**Compliance Report**

| | 1984 /85 | 1985/86 |
|---|---|---|
| Random Reviews | 322 | 627 |
| Planned Reviews | 97 | 309 |
| Violations | 54 | 34 |
| Product Detentions | 20 | 15 |
| Evaluation Incidents | 15 | 10 |
| Consumer Complaints | 22 | 27 |
| Agency Assists | 8 | 6 |
| Contacts | 961 | 1,263 |

# Plant Industry, Laboratory and Standards Division

The Plant Industry, Laboratory and Standards Division comprises several distinct programs and services, including pesticide registration, regulation and enforcement; plant pathology; entomology; weights and measures regulation; apiary inspection; laboratory services; retail and shipping point inspection.

## Pesticide Control

The Vermont Department of Agriculture has the responsibility for regulating the registration, sale, use and disposal of pesticides in the state. The pesticide program is divided into two major activities: certification and enforcement.

The certification grant deals with the certification and licensing of pesticide applicators and dealers. Written exams are required to obtain an applicator's certificate or a dealer's license. Recertification or continuing education is the means by which certified applicators can obtain credit to renew their certificates. Credit can be obtained by attendance at a Vermont Department of Agriculture approved recertification meeting, or by re-examination.

The certification program has certified or licensed the following individuals for 1986:

| | |
|---|---|
| Private Applicators | 1,669 |
| Commercial Applicators | 643 |
| Class "A" Dealers | 116 |
| Class "B" Dealers | 220 |
| Class "C" Dealers | 1,345 |

In addition, Vermont has issued 127 company licenses to commercial applicators. The accompanying table summarizes the pesticides reported applied in Vermont by commercial during 1985 and 1986.

SUMMARY OF COMMERCIAL APPLICATORS' ANNUAL PESTICIDE REPORTS

| Compound | Amount Used (in pounds) | |
|---|---|---|
| | 1984 | 1985 |
| Acephate (Orthene) | 847.00 | 708.29 |
| Alachlor (Lasso) | 22,668.25 | 46,594.95 |
| Aldrin | 1.96 | 0.00 |
| Ametryn (Evik) | 104.00 | 0.00 |
| Aminopyridine (Avitrol) | .03 | .01 |
| Amitrole (Amitrole) | 1.50 | 2.25 |
| Ammonium sulfamate (Ammate) | 114.00 | 266.40 |
| Anilazine (Dyrene) | 29.40 | 33.00 |
| Atrazine | 82,549.90 | 87,932.90 |
| Azinphosmethyl (Guthion) | 3,016.75 | 4,588.80 |
| Bendiocarb (Ficam) | 12.60 | 30.97 |
| Benefin (Balan) | 45.00 | 37.00 |
| Bentazon (Basagran) | 16.00 | 6.10 |
| Benomyl | 416.80 | 330.54 |
| Bensulide | 234.10 | 1,008.82 |
| Boric Acid | 493.50 | 43.00 |
| Brodifacoum (Talon) | .03 | .04 |
| Bromacil (Bromacil, Hyvar) | 1,192.50 | 1,349.00 |
| Butylate (Sutan) | 8,266.80 | 9,545.30 |
| Cadmium | 66.50 | 87.96 |
| Captan | 21,630.00 | 12,293.90 |
| Carbaryl (Sevin) | 1,269.90 | 526.65 |
| Carbofuran (Furadan) | 687.12 | 218.52 |
| Chlordane | 184.00 | 272.00 |
| Chloroneb | 209.90 | 1,688.02 |
| Chlorophacinone (RoZol) | .22 | 1.06 |
| Chlorothalonil (Bravo, Daconil) | 1,387.80 | 2,433.92 |
| Chloroxuron (Tenoran) | 0.00 | 2.00 |

| Compound | Amount Used (in pounds) | |
|---|---|---|
| | 1984 | 1985 |
| Chlorpyrifos (Dursban) | 2,993.60 | 2,248.25 |
| Chromium | 0.00 | 0.00 |
| Copper Sulfate | 11.88 | 49.50 |
| Creosote | 5,280.00 | 5,666.67 |
| Cyanazine (Bladex) | 16,819.40 | 31,665.70 |
| Cyclohexamide | 3.60 | 5.84 |
| Cyhexatin (Plictran) | 12.50 | 45.50 |
| Dacthal (DCPA) | 0.00 | 732.00 |
| Dalapon (Dowpon M) | 230.14 | 0.00 |
| DDVP (Vapona) | 1.46 | 22.19 |
| Demeton (Systox) | 0.00 | 0.00 |
| Diazinon | 627.20 | 1,302.21 |
| Dicamba | 392.10 | 1,654.42 |
| Dichlobenil (Casoron) | 2.30 | 14.00 |
| Dichlone (Phygon) | 2,574.00 | 948.40 |
| Dichloropropene | 0.00 | 244.80 |
| Dicofol (Kelthane) | 35.60 | 4.90 |
| Dichromate salts | 0.00 | 439.20 |
| Dimethoate (Cygon) | 0.00 | 0.00 |
| Dinoseb (Premerge) | 42.00 | 36.00 |
| Diphacinone (Ramiks, Promar) | 0.02 | 0.15 |
| Diphenylamine | 338.00 | 0.00 |
| Diquat | 0.00 | 0.00 |
| Disulfoton (Di-syston) | 21.10 | 11.75 |
| Diuron | 7,637.20 | 3,139.80 |
| Dodine (Cyprex) | 116.40 | .98 |
| Endosulfan (Thiodan) | 13.00 | 18.00 |
| EPTC (Eptam) | 2,037.10 | 4,598.70 |
| Ethion | 1.20 | 1.82 |
| Ethoprop (Mocap) | 15.10 | 0.00 |
| Fenamiphos | 22.50 | 45.00 |
| Fenvalerate (Pydrin) | 150.30 | 45.00 |
| Fensulfothion | 120.00 | 0.00 |
| Ferbam | 0.00 | 22.21 |
| Fonofos | 0.00 | 40.00 |
| Fosamine (Krenite) | 180.00 | 1,889.00 |
| Glyphosate (Round-up) | 5,555.80 | 5,609.50 |
| Hexazinone (Velpar) | 184.00 | 30.00 |
| Iprodione | 864.90 | 1,266.13 |
| Isofenphos (Oftanol) | 99.30 | 935.63 |
| Lindane | 22.90 | 16.70 |
| Linuron (Lorox) | 0.00 | 0.00 |
| Malathion | 2,060.98 | 529.12 |
| Maneb | 5.40 | 72.00 |
| Mancozeb | 2,388.40 | 5,833.60 |
| MCPP | 577.33 | 1,211.85 |
| Mefluidide (Embark) | 13.62 | 3.00 |
| Mercury compounds | 2.87 | 0.00 |
| Metalaxyl (Subdue) | 9.44 | 34.19 |
| Methomyl (Lannate) | 0.04 | 0.50 |
| Methoprene (Altosid) | 0.03 | 0.00 |
| Methoxychlor | 3,304.20 | 1,410.67 |
| Methyl Bromide | 0.00 | 0.00 |
| Metiram | 960.80 | 369.00 |
| Metolachlor (Dual) | 31,532.40 | 38,635.30 |
| Metribuzin (Sencor) | 0.00 | 0.00 |
| Monuron (Urox) | 0.00 | 175.00 |
| MSMA | 0.00 | 1,800.00 |

| Compound | Amount Used (in pounds) | |
|---|---|---|
| | 1984 | 1985 |
| Naled (Dibrom) | 0.00 | 0.00 |
| Napropamide (Devrinol) | 0.00 | 25.00 |
| Oryzalin (Surflan) | 11.44 | 22.80 |
| Oxamyl (Vydate) | 259.00 | 0.00 |
| Oxydemeton-methyl (MSR) | 0.00 | 16.00 |
| Oxyfluorfen (Goal) | 0.00 | 24.00 |
| Paraquat | 148.00 | 169.75 |
| Parathion | 0.00 | 0.00 |
| PCNB (Teraclor) | 2,495.60 | 5,514.48 |
| PCP | 167.70 | 162.50 |
| Pendimethalin (Prowl) | 224.00 | 377.90 |
| Permethrin | 10.70 | 39.40 |
| Phosalone (Zolone) | 3.75 | 0.00 |
| Phosmet (Imidan) | 2,262.00 | 1,836.00 |
| Picloram (Tordon) | 240.20 | 482.40 |
| Potassium Pentachlorophenate | 175.00 | 100.00 |
| Potassium Tetrachlorophenate | 640.50 | 400.00 |
| Profluralin (Tolban) | 10.00 | 0.00 |
| Prometon (Atratol, Pramitol) | 15.00 | 30.78 |
| Propargite (Omite) | 36.00 | 0.00 |
| Propetamphos (Safrotin) | 32.00 | 15.15 |
| Propoxur (Baygon) | 20.90 | 27.50 |
| Pyrethrum | 107.40 | 23.50 |
| Resemthrin | 0.06 | 1.88 |
| Rotenone | 9.51 | 0.06 |
| Sethoxydim (Poast) | 1.53 | 0.75 |
| Siduron | 24.80 | 118.12 |
| Simazine (Princep) | 3,233.85 | 5,096.00 |
| Sodium Floride | 5,845.20 | 6,190.80 |
| Sodium Pentachlorophenate | 0.00 | 200.00 |
| Tebuthiuron (Spike) | 945.60 | 158.20 |
| Thiabendazole | 0.00 | 67.50 |
| Thiophanate | 68.35 | 82.45 |
| Thiram | 273.10 | 238.03 |
| Triadimefon | 171.20 | 273.30 |
| Triallate | 0.00 | 74.65 |
| Trichlorfon (Proxol, Dylox) | 9.60 | 105.60 |
| Triclopyr (Garlon) | 978.70 | 1,853.70 |
| (Vapam) | 30.00 | 0.00 |
| (Vorlex) | 1,540.00 | 0.00 |
| Warfarin | 0.03 | 0.04 |
| Zinc Phosphide | 256.60 | 112.73 |
| Zineb | 44.63 | 79.50 |
| 2,4-D | 2,529.94 | 8,785.69 |
| 2,4-DB (Butyrac) | 34.00 | 74.00 |
| 2,4,5-TP (Silvex) | 0.00 | 0.00 |
| 2,4-DP | 212.75 | 321.40 |

The enforcement grant enables the department to enforce state and federal pesticide laws and regulations. Under this program, investigations are conducted to assure the proper use of pesticides. In addition, all complaints or concerns are investigated to determine if violations have occurred and if so, appropriate action is taken.

Other activities conducted under this grant involve inspections of retail, wholesale and producer establishments handling pesticides, and visits to U.S. Customs officials informing them of federal requirements regarding pesticide imports.

The department's pesticide laboratory, developed under this grant, analyzes the physical samples collected in conjunction with investigations and inspections. The physical samples consist of pesticide formulation, dilution and residue (water, soil, vegetation) samples. Samples are analyzed for product quality, and in residue samples, to determine the presence of pesticides. Purchase of equipment necessary for pesticide analysis is funded (in part) by this grant.

## Pesticide Monitoring

The department's pesticide monitoring program was established by the 1985 legislative session as Public Act Number 72 through the passage of amendments to Vermont's Pesticide Statutes, 6 V.S.A. Chapters 81 and 87.

The monitoring program is charged with assessing the extent and impact of the use and disposal of agricultural chemicals on the environmental quality of Vermont. It is also the responsibility of the pesticide monitoring program to make this data available for deciding how best to manage the use of agricultural chemicals.

The activities of the monitoring program are funded by product registration fees paid by the manufacturers and distributors of pesticide products offered for sale in Vermont. In order that the department's monitoring program providereliable and useful data the program established an evaluation and advisory group. The advisory group consists of personnel invited from the University of Vermont, the Environmental Conservation Agency, the Health Department, Vermont Public Interest Research Group, Vermont Natural Resources Council, the Farm Bureau and the Department of Agriculture. The major concern of the evaluation group was that the Department ensure that a quality control program, to address the site selection, sample collection, lab analysis, data reporting and landowner notification, be established prior to sampling. With these conditions in place sampling for the corn herbicide project started in the spring of 1986. Based on the more than 100,000 acres of silage corn grown annually in Vermont, the use of the corn herbicides clearly represents the most widely used group of pesticides. A review of annual use reporting data submitted by commercial applicators supported this assumption. The survey included analysis for the active ingredients alachlor, atrazine, cyanazine, metolachlor and simazine. Through a cooperative agreement with the Health Department all water samples were also analyzed for nitrates.

Survey sites selected for the corn herbicide project are private water supplies primarily on the farm where the water source is within 500 feet of land used for corn production. The program objective is to collect 250 survey samples to establish those conditions of product use, rate of application or soil type which may have the potential to contaminate groundwater in Vermont. A second objective is to identify those areas of the state which may be vulnerable due to combinations of these factors. Once vulnerable regions have been determined sites will be selected for the installation of long term monitoring wells.

## Pesticide Disposal

At the end of the last biennium, the Agriculture Department was given responsibility for implementing Vermont's pesticide disposal regulations. Through a Memorandum of Understanding between the Department of Agriculture and the Agency of Environmental Conservation (AEC), the department is responsible for regulating the disposal of pesticides as hazardous wastes as specified in 10 V.S.A. Chapter 159.

As a party to Vermont's cooperative Resource Conservation and Recovery Act (RCRA) enforcement grant between the Federal Environmental Protection Agency (EPA) and the A.E.C., the Department conducts a minimum of five pesticide disposal investigations each year. These disposal investigations have included responding to known or suspected disposal practices by commercial pesticide applicators, pesticide spills, illegal disposal by both burial and incineration and providing technical assistance and guidance to applicators attempting to comply with proper disposal requirements. As part of the 1985 grant commitments, the department sent out the Small Quantity Generator Notification Survey to commercial and non-commercial applicator companies. The notification survey informed pesticide applicators of the criteria, requirements and exemptions to EPA's Small Quantity Generator status (SQG) under the 1984 RCRA amendments.

One aspect of the pesticide disposal issue that continues to present a problem is pesticide disposal for non-agricultural, non-commercial users: the public. It is a well-recognized problem without an adequate solution. Since 1984 several communities have sponsored hazardous waste disposal collection days: one in 1984, two in 1985 and four in 1986. For such projects the city/town must assume generator status for signing disposal manifests. Funding for these projects is aided by supplemental grants awarded by the Environmental Protection Agency's Division of Waste Management and Environmental Engineering. To date, the Agriculture Department has participated in five of the seven collection projects. Department personnel have aided in pesticide product identification and classification, logging disposal inventory and sorting, packing and labeling materials for disposal.

Despite the success of the collection days, the needs of homeowners and farmers statewide are not being met due to the lack of financial resources required to promote more comprehensive collection and disposal projects. In an effort to undertake a collection project aimed at the problem of obsolete farm chemicals the Agriculture Department applied to EPA for a grant to fund a pilot project for the collection of agricultural chemicals. That request was denied by the regional office of the RCRA program. Given the constraints on additional funding for pesticide disposal projects, this department will continue to support available disposal projects by providing technical assistance and staffing support.

## Feed, Seed, Fertilizer and Lime

These programs provide for the inspection and analysis of all animal feed products, fertilizers, limes and agricultural seeds to ensure that they meet the nutritional, chemical and germination guarantees specified by their labeling.

The statutory authority for these programs was transferred from the director of the Agricultural Experiment Station to the commissioner of agriculture by Act 252 of the 1983 adjourned legislative session.

The feed and fertilizer and lime statutes were further amended by Act 126 of the 1986 legislative session. The 1986 amendments, as found in 6 V.S.A. Chapters 25, 35 and 29, reassigned feed as Chapter 26 and fertilizer and lime as Chapter 28. This most recent legislation provided for an increase in the annual registration fees for feed, fertilizer and lime products and the assessment of administrative penalties for deficient products. The legislation also increased the annual fertilizer tonnage fee and established a minimum annual fee.

Following the transfer of the administrative responsibility for these programs from the University to the Department of Agriculture, the Department contracted for analytical services with the Regulatory Services Laboratory at the University of Vermont. The Department maintained its contractual arrangement for feed, fertilizer and lime analysis with the University until June 30, 1986. After that date, the responsibility for the analysis of these products was intergrated into the Department's existing laboratory activities. Following the closing of the University of Vermont's seed lab the Department contracted with Cornell's seed lab for seeds analyzed during 1986.

**Products Sampled**

| | 1985 | 1986 |
|---|---|---|
| Feeds | 906* | 411 |
| Fertilizer, Lime | 247 | 190 |
| Seeds | 684 | 101 |

*Data for 1984-85 presented as combined total because programs were acquired mid-year during 1984 and therefore not represented in the last biennial report.

## Greenhouse, Nursery and Plant Pathology Programs

The Agriculture Department and the University of Vermont Extension Service together surveyed the nursery industry to determine the value of horticulture to Vermont. The industry had been valued at $12,183,013 in 1972. The findings of the 1984 survey valued the industry at $46 million; a growth of 350 percent over 12 years. Fifty-four percent of the value comes from the production and services of woody ornamentals, the rest from horticulture and turf. The industry was also reported to supply jobs for 2,291 persons with most reporting firms expecting to hire more people over the next several years. The nursery industry is growing and will become an increasingly important segment of Vermont's agriculture.

### Nursery Certification

During the biennium, legislation and regulations were passed, updating the Nursery Law, 6 V.S.A. Chapter 206. This legislation was sponsored by Vermont Plantsmen's Association, the state's non-profit professional trade association of nurserymen, greenhouse managers, arborists, and related horticulturists. The new nursery statute and regulations have provided for an understandable and enforceable law. Previously, when a nursery had infested plant material, the whole nursery would be placed under a stop-sale order. With the changes, only plants that are infested with injurious pests may be placed under such an order, and the regulations now allow for a recourse for the nurserymen if the circumstances are in disagreement. The new law is consistent with the recent advances in plant propagation which have affected the horticulture field.

Two hundred and five nursery certificates were issued to greenhouses and nurseries in 1985. Nursery stock dealer's licenses were issued to 278 operators. Nursery stock was produced on 36.95 acres and greenhouse space totaled 531,091 square feet or 12.2 acres.

The Department of Agriculture continues to offer technical assistance to nurserymen in Vermont, including diagnosis of diseased and infested nursery stock. Most importantly, proper diagnosis insures that appropriate control practices are recommended to avoid spread of pests around nurseries and to customers. Several nurseries and garden centers import plant material from out of state and some plant material arrives with economically injurious pests. Some examples of pest problems that have been identified by Vermont Department of Agriculture staff are: bacterial blight of geranium, a serious disease that can result in total crop loss; chrysomvxa weirrii, a fungus disease of needles of blue and Engelmenn spruce; Prociphilus spp., root aphids which can occur on conifer seedlings.

### Scleroderris Canker Quarantine

The state quarantine for scleroderris canker was increased by 16 towns during the biennium. Scleroderris canker is a fungus disease of pine trees. Initial symptoms begin with branch dieback which can result in tree death in a severe infection.

One inspector is hired each summer for 10 weeks to survey the Christmas tree plantations inside the quarantine zone and issues certificates to those plantations where no canker is found.

In 1984 inspection covered 26 towns in six counties in which two new infection sites were found within quarantine zone. During 1984, a survey outside the quarantine zone resulted in eight new infection sites. Aphids, whiteflies and spidermites are continual problems for Vermont greenhouses and nurseries. Through inspections, infestations are located in time for proper control measures to be put in place.

In 1985 inspection covered 21 towns in six counties with a total of 38 Christmas tree plantations inside the quarantine zone. A survey was also completed of 130 plantations in 19 towns outside the quarantine zone. Eight more towns were found to be infected as a result of this survey.

The Vermont Department of Agriculture will continue with this survey and quarantine to protect the out-of-state market situation for nursery and Christmas tree stock.

### White Pine Blister Rust

During the biennium a study was begun in cooperation with the University of Vermont Department of Forestry to determine which commercial cultivars of gooseberries and currants are susceptible to the white pine blister rust fungus. The rust fungus is of very little consequence to the ribes plant but can be deadly to the white pine. Currently there are restrictions on the planting of ribes in Vermont, but there has been much interest from the public in planting these commercial varieties. Ribes plants are an especially hardy plant for Vermont conditions as well as providing fruit for human and wildlife consumption. These studies will determine which of the commercial varieties of currants and gooseberries are resistant to white pine blister rust and can be safely planted without endangering neighboring white pine stands.

### Pest Survey

Several fresh market farms were sampled during 1985 to determine if root rot fungi were playing a role in reduced yields of peas. Peas, beans, beets and a few other vegetables are susceptible to several root rotting fungi. There are 5 different fungi which make up this complex, they can interact with other disease causing agents and are all active at different times during the life stages of the pea plant. Several of these fungi were isolated including Fusarium spp. and Pythium spp. Studies have been completed on these disease problems in other areas of the country. Work will continue here to determine which of their findings works best for Vermont growers, new varieties, cultural and chemical controls.

### Fir-Fern Rust

A study was initiated to determine the efficacy of Captan on Uredinopsis mirabilis on Balsam fir. At the time of this study only one product is registered for control of this fungus. Claims have been made by growers that other areas were using Captan successfully to control fir-fern rust. During 1985, infection of balsam fir was below 3%, too low to make any definitive conclusions. The study was repeated in spring 1986 and initial results look promising.

## American Ginseng Monitoring Program

The ginseng monitoring program was established during the biennium. In 1975, the Convention of International Trade in Endangered Species of Wild Fauna and Flora (CITES) listed several species that are not now endangered, but could be if trade is not strictly monitored. Ginseng is one of these species. The purpose of the monitoring program is to determine if the collecting of wild ginseng is depleting the wild ginseng population. Vermont is one of 16 states with a monitoring program for the export of cultivated and wild ginseng.

During 1984 collecting season, 198 collectors and 14 dealers registered with the Vermont Department of Agriculture. During 1984-85 season, 56 individuals collected 154 pounds of dry wild ginseng. The average root size was 175 roots per pound. Ninety percent of roots sampled were more than 10 years old. Some roots were more than 40 years old.

During the 1985 season, 237 collectors and 36 dealers registered with the Vermont Department of Agriculture. Collectors who sold ginseng out-of-state were required to be certified as dealers. Only four dealers actually bought roots. One hundred fifty-five pounds of dry certified wild ginseng were collected by 68 collectors. Seven of 23 shipments averaged 200-350 roots per pound while the rest (16) averaged 100-200 roots per pound. Seventy-five

percent of the roots were over 15 years old. One stunted root, collected under a pine tree, was 110 years old. Vermont wild ginseng brought the highest price in two years at the 1986 ginseng auction in Hong Kong.

Vermont harvested 2,129 pounds of cultivated ginseng in 1984 and 3,973 pounds in 1985. Roots were sold both abroad and domestically.

Data was collected from four of the permanent ginseng plots in 1985. All plots saw an increase in the number of plants. One plot increased by 164 plants. Some of the information that is collected from these plots include seed set, germination rate, growth rate of plant, growth rate of root, population density, habitat of plots and local meteorological data.

## Entomology Activities

The Vermont Department of Agriculture maintains a vigorous entomology section, which works closely with the agriculture community, other state agencies, federal officials and the general public on problems, programs and projects ranging from lawn damage caused by insects to crop protection, integrated pest management and survey work.

### Exotic Pest Survey and Detection Program

At the request of the U.S. Department of Agriculture, the Vermont Department of Agriculture participated in the National Exotic Pest Detection Survey Program. This program sets up a national network to monitor destructive insect pests not known to occur in the U.S. The first line of defense against an exotic pest is early detection.

During the biennium, four insect pests were surveyed for under this program:

1. Summer Fruit Tortrix, Adoxophyes orana. This bivoltine tortricid is responsible for 10% and 20% fruit loss in France and Germany, respectively. Pheromone-baited delta-wing traps were used for monitoring.
2. Plum fruit moth, Cvdia funebrana. This Mideast tortricid is a destructive pest of plum, cherry, apple, peach, apricot, pear and walnut. Pheromone-baited delta-wing traps were used for monitoring.
3. Grape vine moth, Lobesia botrana. This multivoltine species has up to four generations per year in grape-growing areas of Europe. Early generations feed on flower buds and pedicels of the grape vine. Pheromone-baited delta-wing traps were used for monitoring.
4. European cherry fruit fly, Rhagoletis cerasi. A relative of our blueberry and apple maggot, damage by this fly can be severe; in Italy, up to 90 percent of the cherry fruit has been infested. Colored sticky panels with an attractant were used to monitor this fly.

To date no exotics have been detected.

### C-7 Survey

The exotic seven-spotted lady beetle, Coccinella septempunctata, is a palearctic species considered to be an important aphid predator. C. septempunctata (C-7) has contributed to a number of successful biological programs around the world. In the Soviet Union, it was used to control aphids in apple orchards and in other parts of Europe, beetle releases resulted in lower pest populations on sugar beets.

C-7 has several favorable characteristics that make it a useful biological control agent. First, the widespread distribution throughout Europe and most of Asia indicates that this species is capable of adapting to diverse environments. Second, it occurs on a variety of hosts, such as apples, oats, winter wheat, potatoes, sugar beets and beans.

Another notable attribute is its adaptable feeding behavior. Larvae are capable of completing their development, with few deaths, on a variety of aphid species on a variety of crops. During periods of low aphid abundance, adults may leave agricultural fields in favor of nearby areas. Later, when the aphid pests become plentiful, C-7 are attracted back into the crop. Even under conditions of extreme prey scarcity, C-7 larvae can survive on as few as seven green peach aphids per day. Also, adults can endure periods of temporary food shortage by feeding on nectar and pollen.

The seven-spotted lady beetle belongs to the family Coccinelledae. Adults are large, about 3/8 of an inch; they have red wing covers with seven black spots and distinctive black and white head markings.

Several attempts to introduce C-7 into North America were made from 1956 through 1971 by personnel of the Beneficial Insects Research Laboratory, Newark, DE, with redistribution efforts again in 1974 and 1975. Since that time, as of April 1984, C-7 has been recorded in 155 counties in 22 states as well as 53 counties in 5 Canadian provinces.

Surveys were conducted during the biennium on first cut alfalfa. C-7 has been found in all counties of Vermont and is considered to be well established here. Vermont may be a suitable area to collect specimens for distribution to other areas.

### Pest Survey and Detection

During the biennium, the Vermont Department of Agriculture continued to participate in the Cooperative National Plant Pest Survey and Detection Program. This program is part of a nation-wide computer-based system for collecting, storing, retrieving and disseminating pertinent pest survey data. In Vermont, this program is a cooperative venture between the Vermont Department of Agriculture; Vermont Department of Forests, Parks and Recreation; and the University of Vermont Cooperative Extension Service, Plant and Soil Science Department.

Survey activities and training included: Japanese beetle, oak wilt, gypsy moth, scleroderris canker, small fruit pests, corn pests, cabbage looper, alfalfa pests, pea diseases, nursery and greenhouse pests, biological and exotic pests. This program is essential in order to develop and upgrade present state programs, allowing all participants to collect, store and retrieve data. It is also improving and standardizing methods for reporting, survey, detection and measurement of economic domestic and exotic plant pests. Survey data is also used to forecast pest populations and control measures.

Objectives of CNPPSDP Program are to:

1. Conduct surveys for and input data into a computer-based Cooperative National Plant Pest Survey and Detection Program on endemic pests of state significance.
2. Continue to conduct surveys for and enter data on pests of regulatory importance at state, regional and/or national levels.
3. Enter export certification data into CNPPSDP if and when appropriate.
4. Continue to participate in the exotic pest detection program in cooperation with USDA/APHIS.
5. Conduct survey for and enter data into CNPPSDP on new pests when necessary.
6. Improve quality of communications between the University of Vermont, Vermont Department of Forests, Parks and Recreation and the Vermont Department of Agriculture.
7. Emphasize data development and input in the areas of plant pathology and entomology.
8. Participate in and enter specific pest/beneficial data.
9. Expand and upgrade present computer and non-computer reporting and communications network. This will include the implementation of the new DBMS to be provided by APHIS/PPQ.
10. Enter biological pest data from diagnostic clinics located at the three participating agencies.

As part of its CNPPSDP activities, Vermont Department of Agriculture continued to cooperate with USDA/APHIS in the exotic pest detection program. Trap placement, monitoring at regular intervals and yearly reporting of finds were undertaken. The department also participated in the establishment of a faunal list of herbivorous insects feeding on cruciferous crops in the Northeast. These crops include broccoli, cauliflower and cabbage.

Computer programmers from the three participating agencies continued to cooperate in the expansion of present data base management systems (DBMS) and implement development of the new DBMS. Surveys were conducted and coordinated by the Vermont Department of Agriculture apiculturist for acarene and varroa mites. Data was transmitted upon completion of these surveys.

A continued effort was made to deregulate areas of Vermont quarantined by the Canadian government for Japanese Beetle.

Oak wilt surveys were conducted during the biennium. Aerial surveys were conducted by the Vermont Department of Forests, Parks and Recreation. Any suspect vegetation was then followed by ground evaluations and laboratory analysis. This was a statewide program. This should facilitate export of oak logs to the European Common Market.

A tree health conference was organized in January 1986 to bring state, federal, and university researchers together to discuss and present survey and research activities being conducted in Vermont. This will assist the pest survey committee in formulating future survey needs, goals and objectives.

The Vermont Department of Agriculture conducted a thorough survey of spruce plantings (nursery stock included) for Chrysomyxa weirii, a spruce needle rust on blue and Engelmann spruce. This is of regulatory importance to the Vermont nursery industry.

The department continued to survey pea disease. A majority of Vermont vegetable growers plant several acres of peas each year. Emphasis was placed on the root rot complex of fungi - fusarium, rhizoctonia, pythium and aphanomyces.

A survey was conducted of Taenipthrips inconseouens in Vermont sugarbushes. This survey will determine the extent of damage, the range and the economic impact of this pest. The data will determine whether or not control strategies are warranted.

The department participated in beneficial surveys and other surveys requested by APHIS/PPQ. University of Vermont Plant Diagnostic Clinic, Vermont Department of Agriculture Plant Diagnostic Lab and Vermont Department of Forests, Parks and Recreation Diagnostic Lab received pest data by those agencies.

The quality of communications between cooperating agencies was improved. This was accomplished through computer telecommunications, meetings and newsletters. Survey results were furnished to farmers, researchers, agents, specialists and the general public through the use of the University of Vermont newsletter, radio talk shows and direct contact.

General pest surveys were conducted on endemic pests throughout the growing season in alfalfa, sweet and field corn, vegetable farms, apples, small fruit, Christmas tree plantations, greenhouses and nurseries. Information was

recorded and pertinent data transmitted.

The scleroderris canker quarantine boundary was expanded due to 1985 survey activities. This includes an addition of eight towns and two new locations. Japanese beetle trapping was conducted in nine northern counties. Traps were placed throughout the area in order to determine beetle distribution. Future data will be used for deregulation.

Special surveys were conducted in peas for root rot fungi, turf for grubs, apple for apple sucker (now reported in all Vermont counties), turf for nematodes, nursery stock for Chrysomyxa weirrii, greenhouses for bacterial blight of geraniums, corn for corn earworm, and cabbage for cabbage looper.

The University of Vermont and Vermont Department of Agriculture conducted alfalfa pest surveys. This included alfalfa blotch leafminer, alfalfa weevil and weevil parasitoids.

The objectives of the program are to:

1. improve the quality of communication between the three participating agencies, the state agencies and federal agencies;
2. assist in pest forecasting;
3. set up a network for foreign pest detection;
4. minimize foreign export certification;
5. reduce additional quarantines placed on Vermont;
6. provide training and updating of field personnel;
7. provide for the possible deregulation of quarantined areas within the state of Vermont;
8. certify presence or absence of and locations of quarantined pests in order to take regulatory action;
9. protect Vermont agricultural and forestry industries from devastating economic pests;
10. provide data necessary to make control recommendations and increase yields;
11. provide for entry into the national computer-based survey and detection program;
12. standardize pest reporting and crop phenology;
13. establish a reference collection on faunal herbivorous insects feeding on cruciferous crops in the Northeast;
14. establish a data base management system;
15. increase diagnostic capabilities of state agencies.

## Arthropod Control

During the biennium, the Plant Industry Section continued to provide technical assistance and survey activities to several Vermont towns, districts, clubs, resorts and individuals on arthropod control. This includes mosquitoes and blackflies. Activities include mapping, identification, training and control recommendations.

One major problem encountered was that of liability insurance coverage for directors of organizations and town committees. When the coverage was available, it was prohibitively expensive. As a result, one of the largest and most active control districts ceased all control activities.

## A New Cluster Fly Control

The cluster fly, Pollenia rudis., occurs throughout Vermont. This fly causes an annoyance in homes, buildings and hospitals. Flies enter buildings in late summer and early fall and hibernate in available cavities, where they are protected from winter weather. After entering the hibernation sites, flies will become active whenever temperatures are above 54 degrees Farenheit. They fly to windows and to lighting fixtures where they may accumulate in large numbers. Their activity is annoying and unsightly, and the crushed bodies, heavy with fat reserves, stain upholstery, carpets and finished wood surfaces. Flies captured in hospitals have been found to carry bacteria of infectious nature.

Cluster flies do not breed in buildings. The female flies lay their eggs on the soil surface in the vicinity of earthworms. The young maggots are parasitoids on the earthworms.

A control program developed by Dr. E. M. Raffensperger of Cornell University, Ithaca, New York, was used on a trial basis by one Vermont hospital in 1983. As a result, 1984 and 1985 saw an increase in the number of hospitals and private properties being treated. This new method of control has proven to be extremely efficacious.

A hand-held fogging machine (barn fogger) is used. The machine is carried up and down the entire outside of the building. Only a very low volume of undiluted Ectiban 5.7% EC (permethrin) is used. Five (5) ounces to each 1,000 square feet of wall area is recommended. The fogger should be held within three feet of the dry surface to be treated and only when air movement is less than 2 m.p.h. One single application between August 15 and August 22 is best.

## Other Insect Pests

Chinch bug (Blissus leucooterus): This devastating turfgrass pest continues to remain at high population levels. Significant damage was observed in Barre, Montpelier, Burlington and Poultney.

A looper (Eupithecia spp): This looper was found in the Barre, Montpelier and Waitsfield area on Andorra juniper. Unsightly feeding damage resulted in browning of the juniper.

Turfgrass ataenius (Ataenius spretulus): Damage on a golf course was minimal. Found in conjunction with Phyllophaga grubs.

Alfalfa weevil (Hypera postica): Population levels were high in Addison and Rutland counties. Some control measures were initiated.

Locust leafminer (Odontata dorsalis): This leaf-mining beetle of locust severely defoliated trees in Chittenden, Windsor and Windham counties.

White pine weevil (Pissodes strobi): Population levels remain high throughout the state. Damage was also reported in nurseries on white, mugo and Austrian pine.

Spruce gall midge (Mayetiola piceae): A new pest find in Barre on Norway spruce.

Apple sucker (Psylla mali): Exotic pest now recorded in all counties in Vermont.

Japanese beetle (Popilla japonica): Extensive damage on golf courses. Adult damage widespread south of Montpelier. Survey data indicates northern part of state is non-infested.

Gypsy Moth (Lumantria dispar): Population levels have collapsed throughout the state. Focal areas have also collapsed.

A White grub, Euphoria inda.: Collected in a vegetable garden in Bradford. Moderate damage to crops.

A root aphid, Prociphilus americanus: Widespread damage in Christmas tree plantations on Fraser fir, economic damage resulting (tree loss).

A scale, Chrysomphalus abietivorella: Heavily infested Dracaena from Florida.

Seed cone borer (Dioryctria abietivorella): Found boring into trunks of white pine in Bennington County. Moderate crop loss but total tree kill resulted.

## Apiary Program

In the last biennial report it was mentioned that the bee industry was plagued with 3 major problems:

1. Low-priced imported honey.
2. Parasitic bee mites.
3. The "Africanized" Brazilian Bee.

An update of those problems is included here.

### Imported Honey

Honey from Mexico, China, Argentina and a few other large producing countries is still coming into the U.S. essentially duty free at 35-47 cents a pound. This foreign competition has created a depressed wholesale market for the U. S. beekeepers. To assist the industry, in part because beekeepers provide valuable pollination services to the rest of agriculture, the U.S. Commodity Credit Corp. provides loans up to 64 cents a pound. The majority of the honey producers using this program renege on the loan leaving the federal government to deal with over 100 million pounds of honey a year. The government has not been able to get rid of this honey, creating large storage bills. To solve the problem, Congress decided to let the honey producers pay back their 64 cents a pound honey loan money at the lesser average world price of perhaps47 cents a pound. In other words, a subsidy of about 17 cents a pound. This solves the storage problem and gives the beekeeper enough money to compete in the world market. The idea is that instead of just dropping the expensive honey loan program, the government will give the beekeepers a chance to reestablish their markets with the U.S. packers then phase out over a 5 year period. This plan may be just prolonging the agony when the only real solution is to place a duty on imported honey. Many other crops are in the same boat, with import duties being an impossibility, henceforth came the marketing order era.

In May of 1986 a referendum was held in which 87.5% of the honey producers and packers approved the adoption of a marketing order for honey. Under the order a Honey Board will operate projects in research, promotion and consumer education designed to expand markets for honey. Beekeepers and importers who produce or import over 6,000 pounds of honey annually will be levied a one cent per pound tax to support this program. Vermont has eleven companies that will be involved in this program.

The Vermont Beekeepers Association will be sending a representative to a national meeting to help elect the Honey Board. The Vermont Honey Promotion Board will be receiving material and possibly some funding from the National Board.

Presently the Vermont Board is working on a Vermont honey cookbook that is expected to be finished in 1986.

### Parasitic Mites

On July 6, 1984, the acarine mite, also known as the honey bee tracheal mite, was found in Texas near the

Mexican border. By August 1986, the mite had been found in 27 states. From 1983-1986, 50 samples of 50-100 bees per sample were collected and examined in Vermont. No mites were found in Vermont even though they have been found in all our bordering states wherever migratory beekeeping takes place. Vermont established a quarantine in 1985 barring all shipments of bees into Vermont from mite infested areas. This is only a stalling tactic in that bees do not recognize borders.

It is inevitible that the mites will spread into Vermont. The effect of this mite on bees in northern climates has not been established. Any added stress to the colony is obviously undesirable and some effort to control this potentially economic pest has to be attempted. If future studies show this pest to be uneconomical Vermont's quarantine will be dropped.

### Africanized Bees

The Africanized-Brazilian bee is now in Mexico and is expected to reach Texas by 1988-89. An isolated AB swarm was found in California. It is believed that it came in from South America on oil drilling equipment. All the hives within 50 miles of the swarm were sampled and destroyed.

Varroa mite, a deadly bee parasite, could be spread widely through the United States by Africanized swarms and, in fact, a mite-infested swarm was found and destroyed on a foreign ship in Cleveland. Some bee specialists regard the Varroa mite as a more serious threat than the Africanized bee because, if introduced, it would spread throughout the country, whereas Africanized bees probably will be limited to the southern third of the continental U.S. Vermont is following this situation very closely and is now sampling for Africanized bee and Varroa mites. Hopefully, A.P.H.I.S. will handle these problems more successfully than the newly introduced tracheal mites.

We have high hopes that the commercial queen rearer that moved into Vermont this year will be able to help keep Vermont bees healthy by supplying queens from in state providing an outlet other than the southern states.

### American Foulbrood (AFB)

The disease rate for 1985 was up to 2.7% from 1.95% in 1984. Four thousand three hundred eighty-four hives were inspected in 960 yards. One hundred twenty hives were found to be diseased and were destroyed. The Bennington area was on a disease alert for 1986. The New York inspector found 25% of the hives diseased in the southern part of the New York county across from Bennington. The Canadians also found a hot spot near the Vermont border around the town of Franklin.

We tried something new this year with the inspection program. A dog was trained by Fred Bush from the State Police Canine Corps to smell out AFB. The training is similar to that of a bomb or drug detecting dog. Max (the dog) sits down next to the hive when he smells the distinctive AFB odor. AFB kills the bees in the larval stage. These rotting larvae have a particular odor. He can only be used during cold weather when the bees are not flying. During the spring of 1986 we ran the dog by 890 hives in 44 yards. He sat at 21 hives of which 14 were verified as being diseased. Bee disease inspection dogs are also being used in Michigan and Maryland. Max is a young dog and his rate of accuracy should improve as the inspector that accompanies him learns how to handle this finely tuned animal.

### Apiary Disease Statistics

| | Hives Inspected | Apiaries Inspected | Hives Diseased | Percent Diseased |
|---|---|---|---|---|
| 1983 | 4652 | 977 | 107 | 2.3% |
| 1984 | 4678 | 949 | 90 | 1.9% |
| 1985 | 4344 | 960 | 120 | 2.7% |

### Chalkbrood

It rained most of June 1986, providing perfect conditions in the hives for chalkbrood. Chalkbrood is a minor stress disease caused by a fungus that kills the larva. 1986 may have been the worst season ever for chalkbrood according to reports from most of the commercial beekeepers in Vermont.

### Honey Crop

The 1985 and 1986 honey crops were fair to bad. Both seasons had rainy Junes. In 1985 a lot of alfalfa was

stunted by a droughty August and left to bloom, saving the season by making an average crop in most areas. The 1986 season was the worst season in quite a few years, similar to the maple season, which ended up at 1/3 to 1/2 a crop. The bees came through the snowy winter very strong and built up fast on a fairly good spring flow. The rain started at the end of May and didn't stop till July. If the rain had stopped five days earlier it could have been a bumper crop of basswood that had one of the best blooms in years.

Honey prices remain stable. Comb honey has gone up a bit in price and crystalized honey is becoming more popular.

## Testing Laboratories

The Central Testing Laboratory is composed of a Dairy Products testing section, a Meat Inspection Laboratory section, an Animal Health testing section and a Pesticide Analysis section.

The primary objective of the Laboratory Division is to provide laboratory capability necessary to enable the Vermont Department of Agriculture to meet the following objectives: (1) protect the public from health hazards resulting from animal disease, (2) protect the public health from hazards resulting from unsanitary conditions in food production, food processing, and food marketing, (3) improve the quality of agricultural products, (4) offer services to farmers, consumers of agricultural products, (5) protect the public from fraud in the marketplace, (6) protect the farmer from certain extraordinary economic losses and (7) ensure that Vermont agricultural products are of superior quality.

### Livestock Section

This laboratory is responsible for analyzing blood serum and milk for brucellosis and blood samples for pullorum-typhoid and mycoplasma. Following is a summary of activities.

| | 1985 | 1986 |
|---|---|---|
| Milk Ring Tests | 29,825 | 31,635 |
| Blood Tests | 43,766 | 45,976 |
| Pullorum Typhoid | 21,440 | 10,871 |
| Mycoplasma Gallisepticum | 1,325 | 590 |
| Mycoplasma Synovia | 1,265 | 580 |
| Parasite Samples | 27 | 15 |
| Samples Prepared for other labs | 124 | 10 |

This laboratory is also responsible for issuing supplies to state and federal inspectors, veterinarians, slaughter plants, commission sales, and auctions. Brucella vaccine and tuberculin are issued to veterinarians only.

### Dairy Products Section

This section analyzes dairy products sold within the state on a monthly basis for the Dairy Division to ensure that they meet the state and U.S. Food & Drug Administration standards. This laboratory also analyzes all farm water supplies used for the cleaning and sanitizing of milking equipment.

The Dairy Laboratory also places high priority on all consumer, producer, industry, other state agencies, and the Extension Service requests for assistance on problem solving as it relates to the production of quality dairy products.

Numerous test procedures are used, the most important being butterfat, bacteria counts, coliform counts, phosphatase, antibiotics, added water and flavor.

The total of tests run for the biennial period is as follows:

| | 1985 | 1986 |
|---|---|---|
| Tests on Fluid Dairy Products | 34,248 | 35,164 |
| Tests on Frozen Desserts | 4,342 | 3,490 |
| Water Analyses | 1,780 | 1,630 |

A small but continuous commercial analysis program has been in existence for several years to counteract the shortage of commercial laboratories in the state. This work is done on a fee basis.

### Meat Inspection Laboratory

This laboratory provides services to the Livestock Division, consumers, and the meat industry. Its legal

mandate is to insure that meat and meat products are wholesome and unadulterated, as well as in compliance with state and federal legislation. Meat samples and processed meat products submitted by meat inspectors, retail inspectors, State Purchasing Division, consumers and law enforcement agencies are analyzed. The product to be analyzed dictates the specific test to be performed and some of the common tests are fat content, added water, protein, salt, nitrites, soy flour, and non-fat dried milk. The meat industry also avails itself of services offered by the meat laboratory to ensure their compliance with the results and regulations and that their products are correctly formulated and wholesome.

The lab analyzed 129 meat samples in 1985, and 182 in 1986.

### Pesticide Analysis Section

The pesticide laboratory was created to monitor pesticide formulations sold at the retail level, monitor pesticide applicators and their products and to check pesticide residue concentrations in areas which may have or have been treated. These services are performed for the Plant Industry Division to protect the public from the misuse of pesticides.

The pesticide laboratory was expanded in 1986 to include a pesticide monitoring section. This section is responsible for monitoring pesticide residue levels in environmental samples. This section is involved in a project to survey corn herbicide levels in wells near cornfields. The greatly increased sensitivity and versatility of the anlaytical instrumentation in the pesticide laboratory has improved the services provided by the Laboratory Section to the Vermont Department of Agriculture, the agriculture community and the consumer. For this biennial period, the following analyses were performed:

| | 1985 | 1986 |
|---|---|---|
| Formulation Samples | 117 | 118 |
| Residue Samples | 125 | 161 |
| Monitoring Samples | --- | 31 |

Another function of the Laboratory Section has been the training of other federal, state and industry analysts. This program has improved mutual cooperation and uniformity of testing for the benefit of all, especially Vermont, an exporting state.

Each major section of the laboratory has participated at least annually in national proficiency testing programs. Each section is also approved by its federal counterpart to do the official analysis for the interstate shipment of animals, dairy products, meats and to control the use of pesticides.

## Retail and Shipping Point Inspection Section

This section operates and manages inspection programs for maple products, apples and eggs. When need and possible, personnel from the Weights and Measures Section were trained and used for these programs. Such adjustments within the Plant Industry Division have increased the capacity of the staff to perform required duties economically.

Retail inspection work performed during the biennium included 1,679 retail store inspections of maple syrup, eggs, potatoes, apples, strawberries, including refrigeration and freezer inspections; 617 violations of various sorts were found resulting in approximately 175 visits to producers to provide technical assistance to resolve problems found in retail stores.

Retail store inspections have also served as a means of getting such information such as source of supply of Vermont produced products and information about Department of Agriculture programs to retail store owners.

### Apples

Vermont apple growers produce approximately 1.1 million bushels per year and the Retail and Shipping Point Inspection Section checks all apples destined for export, under the authority of the U.S. Department of Agriculture. During the biennium approximately 100 container loads of apples per year were exported to the United Kingdom and Canada. Vermont monitoring under U.S.D.A. authority provides the marketing system with unbiased grading and certification for domestic and international trade channels in order to help sell Vermont-produced apples.

The section also administers the Vermont Controlled Atmosphere Program for apples. This mandatory program assures compliance with storage standards in order to ensure that high quality apples are available in the marketplace. Personnel from this section inspect all 37 controlled atmosphere facilities.

Also approximately 250 Cold Storage Certificates are issued yearly in order for Vermont apple producers to ship into California and Arizona.

### Poultry and Eggs

The section administers the U.S.D.A. Shield Egg Program in Vermont. One federally licensed shell egg grader works fulltime at the only Vermont plant enrolled in the program. Some chain stores require shield eggs as a contract condition. The program is designed to assure consumers a continuous supply of high quality eggs.

Federally licensed personnel also administer the Federal Shell Egg Surveillance Program. This program insures consistency of egg quality and safeguards the public health. It further regulates the processing and distribution of eggs and egg products to prevent the movement or sale for human food, of eggs and egg products which are misbranded or otherwise in violation of the Egg Products Inspection Act. This is accomplished by quarterly inspections of all farms with 3,000 or more laying hens. This includes a review of company records, methods of handling restricted eggs, and a physical check of product packed as restricted eggs and those packed for distribution to the ultimate consumer. Fifteen poultry farms are registered in the Federal Shell Egg Surveillance Program.

### Seal of Quality Program

This program identifies superior Vermont agricultural products. The regulatory portion of this program includes:

1. Writing new and evaluating old Seal of Quality standards
2. Evaluating applicants.
3. Assisting participants with production and product quality.
4. Inspecting producer facilities and monitoring product at the shipping point and retail level for quality.

During the biennium approximately 150 Seal of Quality inspections were performed.

### Maple

The maple industry in Vermont comprises an estimated 2,500 maple producers, almost double from just a few years ago. Increased prices and the desire to utilize income opportunities have helped to stimulate this growth.

Production in 1985 was 525,000 gallons, in 1986 just 338,000 gallons.

Even with the increase in producers, the 1986 maple crop was down by 36%. Unfavorable weather conditions (too warm early in the season) resulted in production being down and the color of the product being darker than normal. The decreased production helped to increase the value of the product, however, easing the burden of the poor year to the sugarmaker.

The Retail & Shipping Point Inspection Section performed approximately 175 inspections at sugarhouses during the 1985-1986 sugaring season to ensure compliance with Vermont maple regulations and to assist producers with persistent problems.

In compliance with the Maple Products Regulations, 22 maple dealer licenses were issued.

The licensing procedure has required extensive investigation of companies that import maple syrup from other states and Canada. Our maple regulations and U.S. Customs regulations, ensure that retail purchasers in the United States are aware of the country of origin of the maple syrup they purchase.

Section personnel also spot-check maple syrup and other products labeled as pure, for adulteration. Only 100% pure maple syrup is allowed in a product labeled as such. Since 1984, 57 maple product samples have been tested for adulteration, resulting in one conviction and several instances of bringing adulteration problems to the attention of processors.

We are also responsible for developing and assembling approximately 2,000 maple syrup color grading kits. This is done in cooperation with the Vermont Maple Sugarmakers Association, which handles the expenses and distribution of the kits.

This section also has an education mission. Quality control workshops are given at events such as Maple-Rama, the Retail Grocers Association Convention and the Vermont Farm Show. Education continues to serve as the best means of quality control.

Representatives from this section attend county maple meetings and our inspectors work with vocational agriculture instructors in classrooms demonstrating proper techniques used in checking maple syrup density, grading and packing syrup, and grading eggs.

Division personnel also serve as judges at many county fairs.

## Weights and Measures and Retail Inspection

During the biennium we found ourselves unable to inspect all commercial establishments due to a shortage of personnel.

Major problems at the retail level are short-weight commodities offered for sale and packages being sold gross

weight instead of net weight as is required by law.

We received a large number of complaints on firewood and have found the shortages as high as 50%.

In some areas, the technology of weighing and metering is advancing so rapidly that it takes considerable time and effort for our personnel to keep abreast of the new devices that are being put into commercial use. In an effort to keep pace, our personnel attend frequent training activities.

During the biennium inspectors from Vermont, New Hampshire and Maine attended two training schools with instructors from the National Bureau of Standards. The Institute for Weights and Measures put on a week's training course for our personnel on liquid measuring devices; this course had 30 hours of classroom work and one day in the field and was extremely useful to the inspectors in carrying out their duties when testing liquid measuring devices.

The Fairbanks Morse Co. of St. Johnsbury provided a training program for us with speakers furnished by them and the National Bureau of Standards.

During the spring of 1986 the inspectors attended a two-week training school on investigative methods at the State Police academy in Pittsford.

## Measurement Center

The National Bureau of Standards has decertified our weights and measures laboratory until such time as it meets their requirements for size, humidity and temperature control. They will only allow us to do tolerance testing. This means that we can test to Class F tolerance for our inspectors and licensed repairmen's weights and test measures.

Calibration of sap and syrup hydrometers increases each year and during the biennium we calibrated more than 4,000.

### Measuring Device Inspections Performed During Biennium

| | Total Tested | Rejected | Adjusted |
|---|---|---|---|
| Small Scales | 10,685 | 929 | 945 |
| Liquid, Linear Measure | 324 | 10 | 2 |
| Weights | 3,786 | 44 | 222 |
| Liquid Measuring Devices | 9,762 | 1,168 | 99 |
| Truck Scales | 10 | | 4 |
| Heavy Duty Scales | 951 | 187 | 402 |
| Vehicle Meters | 857 | 29 | 276 |
| Air Eliminators | 800 | 28 | 1 |
| Plant Meters | 39 | 6 | 32 |
| LP Gas Meters | 291 | 14 | 227 |

| | |
|---|---|
| Packages Checked | 32,775 |
| Correct | 24,927 |
| Light | 5,221 |
| Heavy | 2,627 |

# Potato Variety Trials

## 1984

Total yields, percentages of yield in two market grade classes, and specific gravities for a 20-variety test grown in Guildhall, Vermont, are shown below. Clone CF7523-1 produced the highest yield of 493 cwt. followed by Hampton, Rosa, F73008, Acadia Russet, and Kennebec. Clone F73008 had the highest specific gravity at 1.083. Seven of the 20 entries had specific gravities of 1.075 or higher, while 10 were below 1.070.

| VARIETY[1] | Yield above 1 1/2" Cwt./A. | Percent of Katahdin yield | Percent of yield 1 7/8"-4" | Percent of yield 2 1/2"-4" | Specific Gravity |
|---|---|---|---|---|---|
| Acadia Russett | 361 | 102 | 85.5 | 41.7 | 1.079 |
| Campbell 14 | 330 | 93 | 95.7 | 59.2 | 1.078 |
| Crystal | 298 | 84 | 92.2 | 51.1 | 1.064 |
| Gold R | 257 | 73 | 71.1 | 15.6 | 1.069 |
| Hampton | 426 | 121 | 97.2 | 71.8 | 1.069 |
| Katahdin | 353 | 100 | 94.3 | 61.7 | 1.075 |
| Kennebec | 359 | 102 | 92.6 | 62.7 | 1.074 |
| Redsen | 283 | 80 | 88.7 | 35.3 | 1.056 |
| Rosa | 387 | 110 | 92.5 | 55.9 | 1.068 |
| Simcoe | 308 | 87 | 96.3 | 62.5 | 1.079 |
| Superior | 331 | 94 | 96.3 | 61.3 | 1.063 |
| AF330-1 | 311 | 88 | 94.6 | 56.3 | 1.080 |
| B6949-WV3 | 342 | 97 | 95.4 | 65.6 | 1.069 |
| BR7088-18 | 322 | 91 | 95.8 | 61.0 | 1.076 |
| CF7523-1 | 493 | 140 | 94.5 | 58.0 | 1.072 |
| CF7622-6 | 305 | 86 | 92.9 | 48.8 | 1.055 |
| CF74135-3 | 324 | 92 | 90.1 | 50.8 | 1.054 |
| CF77154-10 | 352 | 100 | 93.0 | 48.8 | 1.073 |
| F73008 | 367 | 104 | 96.2 | 71.7 | 1.083 |
| WF564-3 | 306 | 87 | 88.7 | 31.1 | 1.064 |

[1] Planted May 22, killed Sept. 8, harvested Sept. 25, 1984. Seedpieces of all varieties spaced 9" apart; Fertilization with 160-240-240-80.

## 1985

Performance data for 19 potato varieties grown at Guildhall for 102 days are presented below. Nine varieties had significantly higher yields than Katahdin; however, none of the varieties was higher in yield than Kennebec. The five top yielding varieties were Kennebec, CF7523-1, Rhine Red, Hampton, and AF303-5. All varieties sized quite well. BR7088-13, Yankee Chipper, CF7679-15, Campbell 14, and Yankee Supreme had specific gravities of 1.080 or above.

| VARIETY[1] | Yield above 1 1/2" Cwt./A. | Percent of Katahdin yield | Percent of yield 1 7/8"-4" | Percent of yield 2 1/2"-4" | Specific Gravity |
|---|---|---|---|---|---|
| Campbell 14 | 285 | 106 | 98.2 | 73.6 | 1.080 |
| Elba (NY 59) | 337 | 126 | 98.4 | 73.6 | 1.069 |
| Hampton | 363 | 135 | 84.9 | 68.4 | 1.071 |
| Islander | 302 | 113 | 96.1 | 68.7 | 1.079 |
| Katahdin | 268 | 100 | 96.9 | 77.2 | 1.071 |
| Kennebec | 424 | 158 | 95.7 | 79.5 | 1.071 |
| Rhine Red | 373 | 139 | 89.8 | 70.8 | 1.069 |
| Sunrise | 257 | 96 | 97.2 | 68.8 | 1.074 |
| Superior | 285 | 106 | 96.0 | 71.2 | 1.072 |
| Yankee Chipper | 282 | 105 | 96.0 | 59.7 | 1.082 |
| Yankee Supreme | 307 | 115 | 97.6 | 74.7 | 1.080 |
| AF303-5 | 348 | 130 | 96.3 | 75.6 | 1.072 |
| AF339-5 | 330 | 123 | 96.9 | 76.2 | 1.076 |
| B9340-13 | 283 | 106 | 97.2 | 68.3 | 1.077 |
| BR7088-13 | 320 | 119 | 96.2 | 72.9 | 1.088 |
| CF7523-1 | 387 | 144 | 96.9 | 70.3 | 1.076 |
| CF7679-15 | 319 | 119 | 90.5 | 73.6 | 1.081 |
| CS7296-5 | 269 | 100 | 96.5 | 66.2 | 1.075 |
| F70021 | 291 | 109 | 92.2 | 65.5 | 1.070 |

[1] Planted May 21, killed Aug. 31, harvested Sept. 24, 1985. Seedpieces of all varieties spaced 9 inches apart; fertilization 160-220-220-80.

# Development Division

The Development Division is charged with the promotion of Vermont agricultural products and with supporting the development of markets for those products.

Staff consists of five marketing specialists, who cover 13 commodity areas. Included are two dairy specialists whose principal responsibility is to operate the Milk Flavor Program, an ongoing, independently funded quality control activity that monitors dairy production issues, milk flavor and product handling practices. Support comes from the Vermont Dairy Industry Council and State Dairy Council.

The main areas covered by the market specialists are:

| | | |
|---|---|---|
| Apples | Beef | Christmas trees |
| Eggs | Honey | Fruits and Vegetables |
| Lamb | Maple products | Greenhouse products |
| Pork | Dairy products | Turkeys |
| Specialty foods | | |

In the case of eggs and honey, marketing expertise is provided by personnel in other divisions of the department.

The division has an advertising and promotion budget, which helps to support the marketing efforts of the various commodity promotion boards. The boards, with staffing supplied by this division, were organized to plan and execute their own programs of market development. Support for such efforts is apportioned by the division director with the advice of staff, on the basis of need and appropriateness.

As part of its promotion and development mission, the division has provided personnel and financial support for specialty food producers and commodity producers to participate in wholesale trade expositions throughout the United States and in Europe. Division personnel have provided market development services in all areas, including:

Wholesale and retail customer education
Establishment of grading programs
Facilitating market penetration
Assistance in planning advertising
Publications and media communications
Planning and facilitation of promotional events

The director of the Development Division, along with the commissioner of agriculture, sits on the policy board of Market Vermont, the state's interagency marketing committee, with representatives from the Agency of Development and Community Affairs and the Agency of Environmental Conservation. Market Vermont has served as the coordinating entity for several complex marketing initiatives involving agriculture, the non-agricultural business sector and state agencies.

During the period, the Development Division either funded or assisted the promotion boards in the preparation, production and dissemination of considerable quantities of printed materials and in the development of other marketing strategies and tools.

The division is also responsible for the certification of organic farms, administration of the department's role in agricultural fairs, field days, crop festivals farmers markets and other marketing/promotional activities.

### Apple Marketing Order

The state's apple producers took a major marketing initiative during the biennium by approving a state apple marketing order. The order took effect on September 13, 1985, following a 23 to 16 vote, with 7 abstentions. The order affects producers wholesaling 500 bushels or more of U.S. 1 or better quality fruit. It is estimated that an 8-cent-per-bushel assessment will raise $60,000 to $80,000 annually. For the first year, a $22,000 pledge was made to the New York-New England Apple Institute, with the balance being used for apple promotions such as Vermont Apple Week, a new brochure and media advertising.

### Effects of Daminozide (Alar)

During this period, the use of daminozide (trade name Alar) came under scrutiny by the U.S. Environmental Agency and certain public interest groups. The controversy surrounding the use of daminozide, which is applied primarily as a "stop-drop" growth regulator, is of substantial and continuing interest to growers and the department.

### Export Development

In 1985, the state Agriculture Department began an export development program for certain agricultural products. Apples, maple products, and specialty foods were identified as having the greatest export potential. The Agriculture

Department participated in international trade shows in the United Kingdom and in West Germany, and was engaged in other marketing activities on behalf of several Vermont companies.

### Vegetable and Small Fruit Industry

The vegetable and small fruit industry began aggressive, statewide promotional activities directed at its predominantly in-state markets. Radio advertising and newspaper ads promoting pick-your-own produce were major thrusts. Vermont's 19 farmers markets reported sales of more than $500,000 in both 1984 and 1985. During the biennium the Agriculture Department increased its cooperation with the markets, including the production of informational brochures and providing the assistance of summer interns for statewide surveys. The department alos assisted growers interested in having their crops certified as organically grown. There is a substantial and growing market for such produce, especially in the Boston area. New potato and pepper varieties were evaluated in trails conducted during 1985 and 1986. Promising early season varieties were described in a report to growers statewide.

### Nursery and Greenhouse Industry

In March 1985, a cooperative report on Vermont's nursery and greenhouse industry was published by the Vermont Department of Agriculture and the University of Vermont. The study indicated a 350% increase in the size of the industry from 1978, with a current retail worth of $46 million. Sales and production of nursery and greenhouse crops continues to increase each year as more consumers and industries demand top quality plants and related services.

### Seal of Quality

The Development Division has primary responsibility for developing standards for the Vermont Seal of quality program. The program is designed to assure consumers that products bearing the seal are of superior quality; that they are graded, processed, handled and packaged in accordance with explicit program regulations and that adherence to program standards is monitored by department personnel on an ongoing basis. The following areas are covered by Seal of Quality regulations:

| | | |
|---|---|---|
| Maple syrup | Fruit wines | Blueberries |
| Fluid milk | Yogurt | Cottage cheese |
| Butter | Apples | Fluid cream |
| Eggs | Ice cream | Cheddar cheese |
| Lamb | Beef | Turkey |
| Sprouts | Ginseng | Apple cider |
| Honey | Potatoes | Maple and honey blends |

Processed fruit and vegetable products

### Meat Grading

In 1985, the Development Division funded the training of a department employee in USDA meat grading procedures for beef and lamb. The result was the establishment of a meat-grading program in Vermont for the first time. The value of the program is that Vermont producers now have available on-site grading, which is necessary for entry into interstate wholesale markets. More than anything, the grading program is a marketing tool. The meat trade depends on standardized grading, set by the federal government, to assure customers of quality and yield. Until now, Vermont producers have not been able to guarantee wholesale customers a product that is demonstrably consistent in quality. The grading program also provides producers with a means of evaluating their production methods. The grading standards are also a producer's key to obtaining the Seal of Quality for beef and lamb products.

## Vermont Farm Show

The 1985 and 1986 Vermont Farm Shows repeated the success of the 1984, 50th Anniversary event. Organized by the Department of Agriculture, Division of Markets over 50 years ago, the Vermont Farm Show has continued to blend the efforts of the Extension Service and a dozen other agricultural commodity groups into Vermont's foremost annual agricultural event.

The additional exhibit space, made possible by utilization of the Barre ice arena, allows us to give agriculturists a more complete display of the machines and services available to them for profitable operation at their enterprises. In 1986, 140 different exhibitors were able to set up inside the city auditorium and the ice arena. The higher ceiling of the ice arena allowed the larger equipment of today's agriculture to be exhibited. Some exhibitors utilized additional space in an outside corridor which ran between the two buildings.

Competition in the farm products contests, 10 categories consisting of 45 different classes, provides education to

those entering their products. The objective of the products contests is to continually help Vermont farmers to produce the best quality. A product not judged excellent receives a card explaining why the product failed to receive a blue ribbon. Cash prizes are awarded to the best product in each class and a "Best of Show" award is given in each category.

The three days of the Vermont Farm Show are used for business meetings and educational sessions by by member organizations. These programs are of real value to an increasing number of people who are becoming part-time farmers as well as to the established farmer who wants to keep current.

The Future Farmers of America organization uses the Vermont Farm Show as part of its educational program.

The Vermont Farm Show Inc. membership includes:

Vermont Beekeepers Association
Vermont-New Hampshire Potato Growers Association
Vermont Sheep Breeders Association
Vermont Beef Producers Association
Vermont Poultrymen's Association
Vermont Maple Sugar Makers Association
Vermont Horticulture Association
Vermont-New Hampshire Christmas Tree Association
Vemront Plantsmen's Association
Vermont Dairymen's Association
Vermont State Rabbit and Cavy Breeders Association

## Vermont Agricultural Enterprises

In 1970 the Vermont Department of Agriculture began to operate a section of the Vermont Building at Eastern States Exposition in West Springfield, Mass., for the purpose of promoting Vermont agricultural products. The success of the operation led to a gradual growth of space. In 1973 Vermont Agricultural Enterprises was organized to be the official entity to operate the agricultural exhibit. Later arrangements with the Development Department gave the Department of Agriculture responsibility for the entire building, although the responsibility spelled out in the law was still with the Agency of Development and Community Affairs. The 1977 General Assembly changed the responsibility from the Agency of Development and Community Affairs to the Department of Agriculture. The departmnet of Agriculture, through contract, has been assigning the responsibility to Vermont Agricultural Enterprises, a private, nonprofit education organization.

Under this arrangement, we have made significant progress in the area of promotion for Vermont agricultural products as well as general promotion for our state.

The Vermont Building is divided into two sections: a sales area and an area of demonstrations and exhibits.

Vermont Agricultural Enterprises, in cooperation with the Department of Agriculture, coordinates the sales and promotional activities. These activities provide Vermont agriculture an effective means of promoting the products of our farms to approximately 600,00 people who annually pass through the building. We are, through this effort, reaching more people in our prime marketing area than live in our state.

The agricultural products sales area of the building generates the income to finance the promotional exhibits and demonstrations. Approximately $250,000 of sales in both 1985 and 1986 gave us a profit sufficient to maintain the operation, including the expenses of more than 100 people who work in the building. Most workers, including 24 members of 4-H, are unpaid volunteers; a perfect example of cooperation among Vermont farm people and their organizations who exhibit and demonstrate at the Big E.

Vermont Ag Enterprises continues to sponsor the Vermont Farm Host Program, which welcomes visitors to our farms to see first-hand the production of the food they eat.

# Administration Division

The Administration Division comprises the staff of the commissioner and the Business Office. The Business Office is assigned the administrative functions for the department. This office works closely with the Commissioner and Deputy and had direct communication with the program directors, assisting with and establishing departmental policies and procedures. Responsibilities include complete financial control of expenditures, budget preparations, purchasing of supplies and equipment, preparation of payrolls and time reports, personnel matters, deposits and control of department receipts, assisting in administering federal grants, contracts, and other related duties. This office is also responsible for the licensing of all retail establishments selling oleo, milk, meat, and Class "C" pesticides in Vermont. Approximately two thousand licenses are issued annually.

## Appropriations and Expenditures, FY 1985

| | Adjusted Appropriation | Expended | Balance |
|---|---|---|---|
| ADMINISTRATION | | | |
| Personal Services | $239,610 | $239,609 | $1 |
| Operating Expenses | 55,895 | 55,806 | 89 |
| Receipts | (34,300) | (34,362) | 62 |
| TOTALS | 261,205 | 261,053 | 152 |
| LIVESTOCK | | | |
| Personal Services | $314,500 | $314,308 | $192 |
| Operating Expenses | 33,400 | 33,326 | 74 |
| Grants | 34,081 | 850 | 33,231 |
| TOTALS | 381,981 | 348,484 | 33,497 |
| MEAT/POULTRY INSPECTION | | | |
| Personal Services | $294,800 | $291,265 | $3,535 |
| Operating Expenses | 67,000 | 65,814 | 1,186 |
| Receipts | (227,100) | (222,379) | (4,721) |
| TOTALS | 134,700 | 134,700 | 0 |
| DAIRY MARKET DEVELOPMENT | | | |
| Personal Services | $111,500 | $77,056 | $34,444 |
| Operating Expenses | 69,700 | 63,463 | 6,237 |
| Grants | 4,500 | 3,375 | 1,125 |
| Receipts | (111,200) | (86,150) | (25,050) |
| TOTALS | 74,500 | 57,744 | 16,756 |
| DAIRY | | | |
| Personal Services | $277,200 | $277,171 | $29 |
| Operating Expenses | 62,000 | 61,966 | 34 |
| Receipts | (19,000) | (18,938) | (62) |
| TOTALS | 320,200 | 320,199 | 1 |
| PLANT INDUSTRY | | | |
| Personal Services | $263,100 | $262,114 | $986 |
| Operating Expenses | 65,000 | 64,481 | 519 |
| Receipts | (79,500) | (79,064) | (436) |
| TOTALS | 248,600 | 247,531 | 1,069 |
| WEIGHTS, MEASURES & RETAIL INSPECTION | | | |
| Personal Services | $212,900 | $210,750 | $2,150 |
| Operating Expenses | 42,000 | 41,920 | 80 |
| Receipts | (16,000) | (16,805) | 805 |
| TOTALS | 238,900 | 235,865 | 3,035 |

| | Adjusted Appropriation | Expended | Balance |
|---|---|---|---|
| AGRICULTURAL DEVELOPMENT | | | |
| Personal Services | $192,600 | $190,580 | $2,020 |
| Operating Expenses | 76,700 | 76,682 | 18 |
| Others | 94,000 | 93,875 | 125 |
| Receipts | 0 | 0 | 0 |
| TOTALS | 363,300 | 361,137 | 2,163 |
| | | | |
| LABORATORIES | | | |
| Personal Services | $193,800 | $192,688 | $1,112 |
| Operating Expenses | 39,800 | 39,226 | 574 |
| Receipts | (60,200) | (59,231) | (969) |
| TOTALS | 173,400 | 172,683 | 717 |
| | | | |
| STIPEND FUND | $90,000 | $90,000 | 0 |
| | | | |
| BREEDERS STAKE | $25,000 | $25,000 | 0 |
| | | | |
| FEDERAL and SPECIAL FUNDS | BALANCE FORWARD & RECEIPTS | EXPENDED | BALANCE |
| | | | |
| Agriview Publication | $15,875 | $13,062 | $2,813 |
| Meat Inspection, Federal | $237,153 | $250,242 | $(13,089) |
| Dairy Markets Development | $6,250 | 0 | $6,250 |
| Federal, State Product Inspection | $10,777 | $10,385 | $392 |
| State Dairy Council | $165,773 | $148,150 | $17,623 |
| Vt. Dairy Industry Council | $1,707,706 | $1,707,706 | 0 |
| Lab Testing | $29,387 | $20,518 | $8,869 |
| Plant Pest Survey | $19,868 | $16,650 | $3,218 |
| Pesticide Enforcement '83 - Fed. | $419 | 0 | $419 |
| Pesticide Enforcement '84 - Fed. | $35,131 | $29,542 | $5,589 |
| Pesticide Enforcement '85 - Fed. | $40,474 | $40,292 | $182 |
| Pesticide Certification '84 - Fed. | $9,324 | $5,207 | $4,117 |
| Pesticide Certification '85 - Fed. | $14,351 | $10,405 | $3,946 |
| Feed, Seed, & Fertilizer | $198,463 | $99,653 | $98,810 |
| Pesticide Monitoring | $405 | 0 | $405 |
| Federal Egg Inspection | $41,730 | $33,281 | $8,449 |
| Vermont Products Identification | $19,546 | $5,459 | $14,087 |
| Eastern States Exposition | $3,488 | $3,488 | 0 |
| USDA - Soil Conservation Service | $20,917 | $20,917 | 0 |
| NE Governors Conference | $8,888 | $8,888 | 0 |
| VDIC Escrow - Billings vs Dunsmore | $15,589 | $15,589 | 0 |

## Appropriations and Expenditures, FY 1986

| | Adjusted Appropriation | Expended | Balance |
|---|---|---|---|
| ADMINISTRATION | | | |
| Personal Services | $283,208 | $276,695 | $6,513 |
| Operating Expenses | 61,878 | 61,478 | 400 |
| Receipts | (32,585) | (27,407) | (5,178) |
| TOTALS | 312,501 | 310,766 | 1,735 |
| | | | |
| LIVESTOCK | | | |
| Personal Services | $333,000 | $332,918 | $82 |
| Operating Expenses | 34,100 | 34,050 | 50 |
| Grants | 33,231 | 1,200 | 32,031 |
| TOTALS | 400,331 | 368,168 | 32,163 |

| | Adjusted Appropriation | Expended | Balance |
|---|---|---|---|
| MEAT INSPECTION | | | |
| Personal Services | $375,800 | $371,852 | $3,948 |
| Operating Expenses | 77,500 | 73,643 | 3,857 |
| Receipts | (303,130) | (296,199) | (6,931) |
| TOTALS | 150,170 | 149,296 | 874 |
| DAIRY MARKET DEVELOPMENT | | | |
| Personal Services | $61,400 | $60,871 | $529 |
| Operating Expenses | 25,700 | 22,375 | 3,325 |
| Receipts | (53,550) | (50,549) | (3,001) |
| TOTALS | 33,550 | 32,697 | 853 |
| DAIRY | | | |
| Personal Services | $318,900 | $318,467 | $433 |
| Operating Expenses | 76,286 | 76,169 | 117 |
| Receipts | (33,800) | (33,501) | (299) |
| TOTALS | 361,386 | 361,135 | 251 |
| PLANT INDUSTRY | | | |
| Personal Services | $312,200 | $301,741 | $10,459 |
| Operating Expenses | 67,600 | 67,340 | 260 |
| Receipts | (139,000) | (128,336) | (10,664) |
| TOTALS | 240,800 | 240,745 | 55 |
| WEIGHTS, MEASURES & RETAIL INSPECTION | | | |
| Personal Services | $264,109 | $264,066 | $43 |
| Operating Expenses | 46,405 | 46,081 | 324 |
| Receipts | (25,800) | (25,492) | (308) |
| TOTALS | 284,714 | 284,655 | 59 |
| AGRICULTURAL DEVELOPMENT | | | |
| Personal Services | $177,638 | $177,481 | $157 |
| Operating Expenses | 47,128 | 47,039 | 89 |
| Other | 155,000 | 154,681 | 319 |
| Receipts | (12,300) | (12,300) | 0 |
| TOTALS | 367,466 | 366,901 | 565 |
| LABORATORIES | | | |
| Personal Services | $204,100 | $194,071 | $10,029 |
| Operating Expenses | 104,600 | 103,853 | 747 |
| Receipts | (136,689) | (129,750) | (6,939) |
| TOTALS | 172,011 | 168,174 | 3,837 |
| STIPEND FUND | $89,048 | $89,048 | 0 |
| BREEDERS STAKE | $1 | 0 | $1 |
| FEDERAL and SPECIAL FUNDS | BALANCE FORWARD & RECEIPTS | EXPENDED | BALANCE |
| Agriview Publication | $15,554 | $13,072 | $2,482 |
| Meat Inspection Federal | $308,101 | $307,906 | $195 |
| Dairy Markets Development | $11,250 | $7,500 | $3,750 |
| Federal/State Dairy Product Inspection | $12,810 | $7,731 | $5,079 |
| State Dairy Council | $172,942 | $159,540 | $13,402 |
| Vt. Dairy Industry Council | $1,737,931 | $1,737,931 | 0 |
| Lab Testing | $24,387 | $16,043 | $8,344 |
| Plant Pest Survey | $27,101 | $27,101 | 0 |

| FEDERAL and SPECIAL FUNDS (cont.) | BALANCE FORWARD & RECEIPTS | EXPENDED | BALANCE |
|---|---|---|---|
| Pesticide Enforcement '83 - Fed. | $419 | $419 | 0 |
| Pesticide Enforcement '84 - Fed. | $5,589 | $5,589 | 0 |
| Pesticide Enforcement '85 - Fed. | $38,940 | $37,177 | $1,763 |
| Pesticide Enforcement '86 - Fed. | $28,000 | $29,637 | $(1,637) |
| Pesticide Enforcement '79 - Fed. | $5,133 | $5,133 | 0 |
| Pesticide Certification '83 - Fed. | $3,761 | $3,761 | 0 |
| Pesticide Certification '85 - Fed. | $8,751 | $3,767 | $4,984 |
| Pesticide Certification '86 - Fed. | $9,995 | $10,315 | $(320) |
| Feed, Seed, & Fertilizer | $258,657 | $124,602 | $134,055 |
| Pesticide Monitoring | $77,380 | $41,910 | $35,470 |
| Federal Egg Inspection | $32,370 | $27,792 | $4,578 |
| Vt. Products Identification | $26,358 | $12,951 | $13,407 |
| Apple Marketing Board | $34,426 | $13,452 | $20,974 |
| Certification of Commericial & Private Pesticide Applicators | $4,954 | $4,954 | 0 |
| Vt. Rehabilitation Corp. | $19,585 | $14,335 | $5,250 |
| Plant Pest Survey '86 | $12,000 | 0 | $12,000 |

## Receipts, Fiscal Years 1985 and 1986

| PROGRAM | SOURCE | 1985 | 1986 |
|---|---|---|---|
| ADMINISTRATION | Sales of Service | $675 | $673 |
| | Sales | $75 | $58 |
| LIVESTOCK | Livestock Dealer Licenses | $2,635 | $1,540 |
| | Swine Garbage Licenses | $16 | $16 |
| | Animal Welfare Licenses | $485 | $320 |
| | Livestock Branding | $3 | $320 |
| MEAT INSPECTION | Meat Handlers Licenses | $6,536 | $6,768 |
| DAIRY | Milk Handlers Licenses | $2,887 | $3,088 |
| | Milk, Cream Testers Licenses | $1,143 | $1,574 |
| | Oleomargarine Licenses | $11,975 | $14,286 |
| | Warehouse Licenses | $360 | $244 |
| | Frozen Dessert Licenses | $4,097 | $4,138 |
| | Imitation Dairy Product Handler Licenses | $75 | $125 |
| LABORATORIES | Laboratory Fees | ---- | ---- |
| PLANT INDUSTRY | Pesticide Registrations | $41,355 | $51,535 |
| | Pesticide Dealers & Applicators Licenses & Certificates | $17,656 | $17,402 |
| WEIGHTS/MEASURES RETAIL INSPECTION | Dealers and Repairmen's Lic. | $1,350 | $1,398 |
| | Weighmasters Licenses | $1,208 | $1,216 |
| AG. DEVELOPMENT | Egg Buyers Licenses | $29 | $68 |
| | Fees-Bureau of Markets | $3,420 | $5,253 |
| GENERAL FUND | | $95,980 | $109,882 |
| | FEDERAL and SPECIAL FUND RECEIPTS | | |
| ADMINISTRATION | N.E. Governors Conference Ag Project | $17,444 | 0 |
| | Sale of Surplus Property | $2,880 | 0 |

| PROGRAM | SOURCE | 1985 | 1986 |
|---|---|---|---|
| ADMINISTRATION (Cont.) | Agriview | $13,339 | $12,741 |
| | Vt. Rehabilitation Corp. | 0 | $19,585 |
| MEAT INSPECTION | Federal Inspection Program | $216,890 | $321,190 |
| DAIRY | State Dairy Council Taxes | $148,790 | $150,735 |
| | Vt. Dairy Industry Council | $1,707,706 | $1,737,921 |
| | Milk Control Bd. Licenses | $4,640 | $4,584 |
| | Product Inspection, U.S. | $1,849 | $12,418 |
| DAIRY MKT. DEVELOPMENT | Dairy Mkt. Development | $5,000 | $5,000 |
| PLANT INDUSTRY | U.S. Pesticide Certification, '84 | $3,905 | 0 |
| | U.S. Pesticide Certification, '85 | $14,351 | $4,806 |
| | U.S. Pesticide Certification, '86 | 0 | $9,995 |
| | U.S. Pesticide Enforcement, '83 | $2,976 | 0 |
| | U.S. Pesticide Enforcement, '84 | $30,000 | 0 |
| | U.S. Pesticide Enforcement, '85 | $40,474 | $38,758 |
| | U.S. Pesticide Enforcement, '86 | 0 | $28,000 |
| | Feed, See, & Fertilizer | $198,463 | $159,847 |
| | Pesticide Monitoring | $405 | $76,975 |
| | Plant Pest Survey '85 | $12,000 | $23,883 |
| | Plant Pest Survey '86 | 0 | $12,000 |
| LABORATORIES | Milk Testing | $14,811 | $14,001 |
| | Milk Quality Testing | 0 | $1,517 |
| WEIGHTS & MEASURES | Federal Egg Inspection | $18,445 | $23,922 |
| AG. DEVELOPMENT | Apple Marketing Board | 0 | $34,426 |
| | Vt. Products Identification Fee | $3,305 | $3,080 |
| | Vt. Products Identification Labels | $3,686 | $7,421 |
| | USDA, Soil Conservation Service | $20,000 | $0 |
| TOTAL FEDERAL & SPECIAL FUNDS | | $2,475,407 | $2,702,815 |

## Agriculture Department Personnel

### ADMINISTRATION DIVISION

| | |
|---|---|
| Cumming, Gail M. | Private Secretary |
| Doyle, Teresa | Secretary/Receptionist |
| Jestes, Amy J. | Resources Planner |
| LaFlamme, Elsie W. | Business Manager B |
| Matheson, Debbie | Administrative Assistant A |
| McNaulty, Jean | Account Clerk A |
| Paine, Charles W. | Deputy Commissioner |
| Rice, William H. | Legal Advisor |
| Stone, Paul A. | Commissioner |
| Wallach, Steven J. | Chief of Information |

### DAIRY and ANIMAL INDUSTRY DIVISION

#### Dairy Section

| | |
|---|---|
| Baker, Stanley W. | Agricultural Inspector |
| Brown, Eva R. | Stenographer C |
| George, Donald F. | Director |

| | |
|---|---|
| Gray, Laurie R., St. | Agricultural Inspector |
| James, Susan M. | Agricultural Inspector |
| Lamphear, Ina H. | Typist B |
| Lewis, Harold E. | Agricultural Inspector |
| Moyer, Byron D. | Dairy Inspection Supervisor |
| Nicholson, Steven | Agricultural Inspector |
| Nosek, Chester F. | Agricultural Inspector |
| Sartelle, Charles H. Sr. | Agricultural Inspector |
| Scruton, Daniel L. | Dairy Quality Specialist |
| Todd, Durwood D. | Agricultural Inspector |
| Tupper, Keith H. | Agricultural Inspector |

**Livestock Section**

| | |
|---|---|
| Christie, Marilyn J. | Stenographer C |
| French, J. Cyril | Agricultural Inspector |
| Gladden, Kathryn A. | Typist B |
| Hafner, David J. | Agricultural Inspector |
| Lawson, Stephanie J. | Clerk B |
| Newcity, Carley R. Jr. | Enforcement Officer |
| Urie, Philip A. | Agricultural Inspector |
| Walker, David U., DVM | State Veterinarian |

**Meat Inspection Section**

| | |
|---|---|
| Aprilliano, Robert J. | Agricultural Inspector |
| Cushing, Carl W. | Meat Inspection Supervisor |
| Dunbar, Victor L. | Agricultural Inspector |
| Farnham, Bruce M. | Enforcement Officer |
| Fay, Bridget C. | Agricultural Inspector |
| Laslocky, Russell W., DVM | Veterinarian |
| Leavitt, Frank G. | Agricultural Inspector |
| Lund, Hugh E. | Agricultural Inspector |
| Marshia, Stanley A. | Agricultural Inspector |
| Mitchell, Michael M. | Agricultural Inspector |
| Quenneville, Randy J. | Agricultural Inspector |
| Sawyer, Sherry L. | Agricultural Inspector |
| Stasheski, Curtis J. | Agricultural Inspector |
| Washburn, Monique T. | Typist C |

**Dairy Market Development**

| | |
|---|---|
| Connor, Daniel F. | Dairy Products Quality Specialist |
| Hodge, Richard R. | Dairy Products Quality Specialist |

## PLANT INDUSTRY, LABORATORY and STANDARDS DIVISION

**Plant Industry Section**

| | |
|---|---|
| Andros, Charles | Apiary Inspector |
| Alexander, Donna C. | Secretary/Receptionist |
| Beebe, Michele A. | Pesticide Certification |
| Benedict, Philip R. | Director |
| Brigham, Richard | Apiary Inspector |
| Comstock, Jeffrey G. | Soil Scientist |
| Dorrance, Anne E. | Plant Pathologist |
| Downer, Jonathan H. | Systems Specialist |
| Drutchas, Richard A. | Apiculturist |
| Hafner, David | Pesticide Investigator |
| Jensen, Richard N. | Plant Industry Agent B |
| Lovely, Lucille | Typist B |
| Marineau, Tamara | Typist B |
| Shaw, Stephen N. | Plant Industry Agent A |
| Sherwood, Susan | Typist B |
| Smith, Catherine A.R. | Stenographer C |

| | |
|---|---|
| Squires, Andrew C. | Plant Industry Agent A. |
| Turmel, Jon P. | Entomologist |
| Valentine, Madeline H. | Typist C |

### Laboratories Section

| | |
|---|---|
| Amell, Liz | Typist B |
| Cloutier, Phyllis | Typist B |
| Cyr, Romeo J. | Laboratory Analyst |
| Fernandez, Anita | Laboratory Analyst |
| Jamison, Victoria T. | Laboratory Analyst |
| Jaworski, John | Laboratories Supervisor |
| Justis, Laurie W. | Laboratory Analyst |
| Polli, Rudolph L. | Chemist Specialist |
| Rollins, Loris | Typist B |
| Santorello, John | Laboratoy Analyst |
| Shambaugh, Nathaniel G. | Chemist A |
| Stewart, Richard T. | Microbiologist A |
| Tucker, Joan | Typist B |

### Weights & Measures, Retail Inspection Section

| | |
|---|---|
| Atwood, Kenneth M. | Agricultural Inspector |
| Ballou, Gregory R. | Agricultural Inspector |
| Brink, Trafford F. | Divison Director |
| Bump, Frank E. Jr. | Agricultural Inspector |
| Cioffi, Raymond P. | Metrologist |
| Cox, Edward G. | Agricultural Inspector |
| Fisher, Ronald G. | Agricultural Inspector |
| Howard, Robert R. | Agricultural Inspector |
| Kopach, Jean M. | Stenographer C |
| Marckres, Henry J. | Marketing Representative |
| Peterson, Kimberly P. | Agricultural Inspector |
| Martell, Bruce A. | Retail Inspection Chief |

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| Monti, Barbara | Director |
| Rogers, Richard P. | Agricultural Marketing Representative |
| Shepard, Sharon A. | Stenographer C |
| Willard, Everett A. | Agricultural Marketing Representative |
| Doyle, Teresa | Stenographer B |
| Wallach, Steven J. | Acting Director |

**APPENDIX:**
**Vermont Agricultural Statistics**
**as reported by**
**New England Agricultural Statistics, USDA**

VERMONT AGRICULTURAL STATISTICS

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STATE OFFICE BUILDING
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UNITED STATES DEPARTMENT OF AGRICULTURE
RICHARD E. LYNG, SECRETARY

NATIONAL AGRICULTURAL STATISTICS SERVICE
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# DAIRY HIGHLIGHTS

## PRODUCTION AND MARKETINGS

Milk production from Vermont farms totaled 2.40 billion pounds in 1985, 86 million pounds more than in 1984 and the second largest of record. The average number of milk cows during 1985 was 184,000 head, up 1,000 head from 1984. The 1985 record high rate per cow of 13,027 pounds continues the long term upward trend with an increase of 399 pounds above the 1984 average.

Dairymen in Vermont used 32 million pounds of milk to feed calves and 12 million pounds for home use in 1985. The amount fed to calves was up 1 million pounds from previous year, but the amount used for home use was unchanged from a year ago. Milk marketed in 1985 totaled 2,353 million pounds, an increase of 85 million pounds from the 1984 milk marketed and the second largest on record. The average price received for milk marketed in 1985 was $13.31 per cwt., down 70¢ from the 1984 average. The decrease in average price per cwt. more than offset the increase in milk production, resulting in 1985 cash receipts of $313 million, $4.54 million below 1984 cash receipts.

MILK: PRODUCTION AND VALUE, VERMONT, 1975 - 1985

| YEAR | AVERAGE NUMBER OF MILK COWS | PRODUCTION | | | | | |
|---|---|---|---|---|---|---|---|
| | | PER MILK COW | | PERCENTAGE OF FAT IN ALL MILK PRODUCED | TOTAL | | VALUE OF MILK PRODUCED |
| | | MILK | MILKFAT | | MILK | MILKFAT | |
| | 1,000 | Pounds | | Percent | Million Pounds | | 1,000 Dollars |
| 1975 | 193 | 10,409 | 383 | 3.68 | 2,009 | 74 | 189,449 |
| 1976 | 194 | 10,789 | 399 | 3.70 | 2,093 | 77 | 218,300 |
| 1977 | 191 | 10,995 | 405 | 3.68 | 2,100 | 77 | 216,930 |
| 1978 | 186 | 11,484 | 424 | 3.69 | 2,136 | 79 | 239,659 |
| 1979 | 183 | 11,907 | 437 | 3.67 | 2,179 | 80 | 272,700 |
| 1980 | 186 | 12,306 | 449 | 3.65 | 2,289 | 84 | 307,252 |
| 1981 | 187 | 12,289 | 450 | 3.66 | 2,298 | 84 | 329,141 |
| 1982 | 192 | 12,422 | 456 | 3.67 | 2,385 | 88 | 336,799 |
| 1983 | 193 | 12,902 | 479 | 3.71 | 2,490 | 92 | 353,885 |
| 1984 | 183 | 12,628 | 471 | 3.73 | 2,311 | 86 | 323,851 |
| 1985 | 184 | 13,027 | 486 | 3.73 | 2,397 | 89 | 319,149 |

MILK COWS: AVERAGE NUMBER ON FARMS, BY MONTHS AND ANNUAL, VERMONT, 1975 - 1985

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1,000 | | | | | | | |
| 1975 | 192 | 192 | 192 | 193 | 193 | 193 | 194 | 194 | 194 | 194 | 194 | 194 | 193 |
| 1976 | 194 | 194 | 194 | 194 | 194 | 193 | 192 | 193 | 194 | 194 | 194 | 194 | 194 |
| 1977 | 193 | 192 | 190 | 188 | 188 | 188 | 190 | 192 | 193 | 193 | 193 | 194 | 191 |
| 1978 | 194 | 190 | 188 | 185 | 182 | 182 | 182 | 185 | 185 | 185 | 187 | 188 | 186 |
| 1979 | 188 | 186 | 184 | 182 | 180 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 183 |
| 1980 | 187 | 186 | 186 | 185 | 185 | 185 | 185 | 186 | 187 | 188 | 188 | 188 | 186 |
| 1981 | 188 | 188 | 186 | 186 | 185 | 185 | 185 | 186 | 186 | 188 | 190 | 190 | 187 |
| 1982 | 192 | 193 | 193 | 190 | 190 | 189 | 190 | 191 | 191 | 193 | 194 | 194 | 192 |
| 1983 | 194 | 193 | 194 | 193 | 191 | 191 | 191 | 193 | 194 | 197 | 191 | 188 | 193 |
| 1984 | 186 | 184 | 180 | 182 | 179 | 180 | 180 | 182 | 185 | 185 | 186 | 186 | 183 |
| 1985 | 185 | 183 | 182 | 182 | 180 | 180 | 180 | 184 | 186 | 186 | 186 | 188 | 184 |

MILK PRODUCTION: AVERAGE PER COW, BY MONTHS AND ANNUAL, VERMONT, 1975 - 1985

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Pounds | | | | | | | |
| 1975 | 805 | 735 | 860 | 880 | 980 | 990 | 900 | 870 | 830 | 845 | 820 | 875 | 10,409 |
| 1976 | 860 | 825 | 925 | 980 | 1,025 | 995 | 945 | 890 | 865 | 865 | 790 | 845 | 10,789 |
| 1977 | 850 | 785 | 920 | 945 | 1,035 | 1,040 | 960 | 915 | 900 | 890 | 850 | 890 | 10,995 |
| 1978 | 890 | 820 | 980 | 1,010 | 1,080 | 1,070 | 1,010 | 970 | 930 | 930 | 870 | 925 | 11,484 |
| 1979 | 930 | 870 | 980 | 1,020 | 1,100 | 1,080 | 1,010 | 990 | 980 | 990 | 950 | 990 | 11,907 |
| 1980 | 985 | 940 | 1,045 | 1,060 | 1,125 | 1,110 | 1,065 | 1,040 | 1,000 | 1,005 | 940 | 980 | 12,306 |
| 1981 | 995 | 920 | 1,060 | 1,070 | 1,145 | 1,105 | 1,060 | 1,045 | 1,010 | 985 | 930 | 980 | 12,289 |
| 1982 | 1,010 | 910 | 1,050 | 1,050 | 1,120 | 1,110 | 1,050 | 1,040 | 1,030 | 1,050 | 1,000 | 1,030 | 12,422 |
| 1983 | 1,095 | 1,000 | 1,135 | 1,100 | 1,150 | 1,105 | 1,075 | 1,050 | 1,035 | 1,050 | 1,030 | 1,110 | 12,902 |
| 1984 | 1,080 | 1,010 | 1,115 | 1,080 | 1,135 | 1,070 | 1,030 | 1,015 | 1,000 | 1,040 | 995 | 1,065 | 12,628 |
| 1985 | 1,075 | 985 | 1,110 | 1,095 | 1,170 | 1,135 | 1,075 | 1,070 | 1,060 | 1,100 | 1,070 | 1,115 | 13,027 |

MILK PRODUCTION: TOTAL, BY MONTHS AND ANNUAL, VERMONT, 1975 - 1985

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Million Pounds | | | | | | | |
| 1975 | 155 | 141 | 165 | 170 | 189 | 191 | 175 | 169 | 161 | 164 | 159 | 170 | 2,009 |
| 1976 | 167 | 160 | 179 | 190 | 199 | 192 | 181 | 172 | 168 | 168 | 153 | 164 | 2,093 |
| 1977 | 164 | 151 | 175 | 178 | 195 | 196 | 182 | 176 | 174 | 172 | 164 | 173 | 2,100 |
| 1978 | 173 | 156 | 184 | 187 | 197 | 195 | 184 | 179 | 172 | 172 | 163 | 174 | 2,136 |
| 1979 | 175 | 162 | 180 | 186 | 198 | 194 | 183 | 180 | 179 | 182 | 176 | 184 | 2,179 |
| 1980 | 184 | 175 | 194 | 196 | 208 | 205 | 197 | 193 | 187 | 189 | 177 | 184 | 2,289 |
| 1981 | 187 | 173 | 197 | 199 | 212 | 204 | 196 | 194 | 188 | 185 | 177 | 186 | 2,298 |
| 1982 | 194 | 176 | 203 | 199 | 213 | 210 | 200 | 198 | 196 | 202 | 194 | 200 | 2,385 |
| 1983 | 212 | 193 | 220 | 212 | 220 | 211 | 205 | 203 | 201 | 207 | 197 | 209 | 2,490 |
| 1984 | 201 | 186 | 201 | 197 | 203 | 193 | 185 | 185 | 185 | 192 | 185 | 198 | 2,311 |
| 1985 | 199 | 180 | 202 | 199 | 211 | 204 | 194 | 197 | 197 | 205 | 199 | 210 | 2,397 |

MILK: QUANTITY MARKETED, PRICE AND CASH RECEIPTS, VERMONT, 1975 - 1985

| YEAR | SOLD TO PLANTS | | | SOLD DIRECTLY TO CONSUMERS | | | COMBINED MARKETINGS | | |
|---|---|---|---|---|---|---|---|---|---|
| | QUANTITY | PRICE PER CWT. | CASH RECEIPTS | QUANTITY | PRICE PER QUART | CASH RECEIPTS | QUANTITY | PRICE PER CWT. | CASH RECEIPTS |
| | Million Pounds | Dollars | 1,000 Dollars | Million Quarts | Cents | 1,000 Dollars | Million Pounds | Dollars | 1,000 Dollars |
| 1975 | 1,955 | 9.40 | 183,770 | 3.7 | 36 | 1,340 | 1,963 | 9.43 | 185,110 |
| 1976 | 2,040 | 10.40 | 212,160 | 3.7 | 40 | 1,488 | 2,048 | 10.43 | 213,648 |
| 1977 | 2,045 | 10.30 | 210,635 | 3.7 | 40 | 1,488 | 2,053 | 10.33 | 212,123 |
| 1978 | 2,090 | 11.20 | 234,080 | 1.9 | 41 | 763 | 2,094 | 11.22 | 234,843 |
| 1979 | 2,130 | 12.50 | 266,250 | 1.9 | 44 | 819 | 2,134 | 12.51 | 267,069 |
| 1980 | 2,240 | 13.40 | 300,160 | 2.3 | 51 | 1,186 | 2,245 | 13.42 | 301,346 |
| 1981 | 2,250 | 14.30 | 321,750 | 2.3 | 53 | 1,233 | 2,255 | 14.32 | 322,983 |
| 1982 | 2,335 | 14.10 | 329,235 | 2.3 | 52 | 1,209 | 2,340 | 14.12 | 330,444 |
| 1983 | 2,445 | 14.20 | 347,190 | 1.4 | 52 | 726 | 2,448 | 14.21 | 347,916 |
| 1984 | 2,265 | 14.00 | 317,100 | 1.4 | 52 | 726 | 2,268 | 14.01 | 317,826 |
| 1985 | 2,350 | 13.30 | 312,550 | 1.4 | 53 | 740 | 2,353 | 13.31 | 313,290 |

MILK: QUANTITIES USED AND MARKETED BY FARMERS, VERMONT, 1975 - 1985

| YEAR | TOTAL PRODUCED | MILK, USED ON FARMS WHERE PRODUCED | | | MILK MARKETED BY FARMERS | | |
|---|---|---|---|---|---|---|---|
| | | USED FOR MILK, CREAM AND BUTTER | FED TO CALVES | TOTAL | SOLD TO PLANTS AND DEALERS | SOLD DIRECTLY TO CONSUMERS | TOTAL |
| | Million Pounds | | | | | | |
| 1975 | 2,009 | 16 | 30 | 46 | 1,955 | 8 | 1,963 |
| 1976 | 2,093 | 16 | 29 | 45 | 2,040 | 8 | 2,048 |
| 1977 | 2,100 | 17 | 30 | 47 | 2,045 | 8 | 2,053 |
| 1978 | 2,136 | 18 | 24 | 42 | 2,090 | 4 | 2,094 |
| 1979 | 2,179 | 19 | 26 | 45 | 2,130 | 4 | 2,134 |
| 1980 | 2,289 | 17 | 27 | 44 | 2,240 | 5 | 2,245 |
| 1981 | 2,298 | 14 | 29 | 43 | 2,250 | 5 | 2,255 |
| 1982 | 2,385 | 13 | 32 | 45 | 2,335 | 5 | 2,340 |
| 1983 | 2,490 | 12 | 30 | 42 | 2,445 | 3 | 2,448 |
| 1984 | 2,311 | 12 | 31 | 43 | 2,265 | 3 | 2,268 |
| 1985 | 2,397 | 12 | 32 | 44 | 2,350 | 3 | 2,353 |

MILK SOLD TO PLANTS: MONTHLY AND ANNUAL AVERAGE PRICE PER 100 POUNDS RECEIVED BY FARMERS, VERMONT, 1975 - 1985

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | ANNUAL AVERAGE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dollars | | | | | | | | | | | | |
| 1975 | 9.50 | 9.25 | 8.90 | 8.70 | 8.25 | 8.15 | 8.80 | 9.40 | 10.10 | 10.60 | 10.80 | 10.90 | 9.40 |
| 1976 | 10.90 | 10.50 | 10.40 | 9.70 | 9.60 | 9.50 | 10.10 | 10.70 | 11.00 | 11.20 | 10.90 | 10.40 | 10.40 |
| 1977 | 10.20 | 10.10 | 9.90 | 9.80 | 9.50 | 9.70 | 10.20 | 10.60 | 11.00 | 11.20 | 11.10 | 10.80 | 10.30 |
| 1978 | 10.80 | 10.90 | 10.60 | 10.40 | 10.40 | 10.30 | 10.80 | 11.40 | 11.90 | 12.40 | 12.60 | 12.30 | 11.20 |
| 1979 | 12.40 | 12.40 | 12.20 | 11.90 | 11.80 | 11.70 | 12.10 | 12.80 | 13.20 | 12.50 | 13.60 | 13.20 | 12.50 |
| 1980 | 13.10 | 13.10 | 13.00 | 12.80 | 12.70 | 12.50 | 13.00 | 13.50 | 14.00 | 14.50 | 14.50 | 14.50 | 13.40 |
| 1981 | 14.50 | 14.40 | 14.20 | 14.00 | 13.80 | 13.60 | 14.00 | 14.40 | 14.70 | 15.00 | 14.80 | 14.50 | 14.30 |
| 1982 | 14.40 | 14.30 | 14.00 | 13.80 | 13.50 | 13.30 | 13.80 | 14.20 | 14.50 | 14.70 | 14.70 | 14.40 | 14.10 |
| 1983 | 14.40 | 14.40 | 14.00 | 13.90 | 13.60 | 13.50 | 13.90 | 14.30 | 14.60 | 14.70 | 14.80 | 14.30 | 14.20 |
| 1984 | 14.10 | 13.80 | 13.70 | 13.40 | 13.30 | 13.20 | 13.60 | 14.10 | 14.60 | 14.90 | 15.00 | 14.50 | 14.00 |
| 1985 | 14.40 | 14.20 | 13.70 | 13.30 | 12.90 | 12.40 | 12.80 | 13.00 | 13.20 | 13.40 | 13.30 | 13.00 | 13.30 |

## LIVESTOCK HIGHLIGHTS

### INVENTORY

The inventory of cattle and calves in Vermont on January 1, 1986 totaled 350,000 head, unchanged from January 1, 1985. This inventory consisted of 188,000 milk cows; 10,000 beef cows; 76,000 heifers 500 pounds and over; 8,000 steers and bulls; and 68,000 calves. The 1985 calf crop of 195,000 head was 4 percent larger than in 1984. The inventory value on January 1, 1986 averaged $570 per head; $15 less than on January 1, 1985 and the lowest since January 1, 1978. The reduced average value per head caused the total inventory value to be $200 million, 3 percent less than a year ago and 32 percent below the record high total inventory value on January 1, 1982.

Sheep and lambs in Vermont totaled 13,000 head on January 1, 1986, 13 percent fewer than January 1, 1985. The total inventory was valued at $1.3 million dollars, 13 percent less than the previous year; however, the average value per head at $103 remained unchanged from last year.

The number of hogs and pigs in the state on December 1, 1985 totaled 6,400 head, 6 percent below the number on hand December 1, 1984. The total inventory was valued at $499,000, bringing the average value per head to $78, up $3.50 from last year.

### PRODUCTION AND MARKETINGS:

Marketings in 1985 numbered 176,000 head of cattle and calves, at a total live weight of 71.2 million pounds; down 29.3 million pounds from 1984 and the lowest since 1981. The number of cattle marketed was down 29,000 head, while the number of calves marketed was up 25,000 head from a year ago. Price received per cwt. marketed for cattle was $40.00 and for calves $45.00, $3.00 less per cwt. for both cattle and calves from 1984.

Wool production during 1985 totaled 90,000 pounds, 4,000 pounds less than the previous year. There were 13,000 head shorn during the year with an average fleece weight of 6.9 pounds. The average fleece weight was 3 percent heavier than 1984's. Production of lamb and mutton in 1985 totaled 1,217,000 pounds, 3 percent less than 1984. Marketings for the year totaled 1,335,000 pounds, an increase of 33 percent from a year before. Shepherds in Vermont received a gross income of $1,010,000 for sheep and lambs during 1985, and $59,000 for wool produced.

The Vermont pig crop of 11,700 head in 1985 was 12 percent below the 1984 crop. A lower pigs per litter rate in the December - May farrowing period was largely responsible for the reduced crop. Vermont pork producers marketed a total of 2.6 million pounds in 1985, down 26 percent from last year. This, coupled with a lower average price received, pulled gross income down 28 percent to $1.4 million. Producers received an average price of $41 per cwt. in 1985, $5 less than 1984.

CATTLE: NUMBER AND VALUE OF ALL CATTLE AND CALVES ON FARMS JANUARY 1, VERMONT, 1975 - 1986

| YEAR | NUMBER | VALUE | |
|---|---|---|---|
| | | PER HEAD | TOTAL |
| | 1,000 | Dollars | 1,000 Dollars |
| 1975 | 336 | 305 | 102,480 |
| 1976 | 346 | 345 | 119,370 |
| 1977 | 338 | 390 | 131,820 |
| 1978 | 336 | 400 | 134,400 |
| 1979 | 329 | 590 | 194,110 |
| 1980 | 340 | 760 | 258,400 |
| 1981 | 337 | 870 | 293,190 |
| 1982 | 360 | 815 | 293,400 |
| 1983 | 379 | 700 | 265,300 |
| 1984 | 360 | 610 | 219,600 |
| 1985 | 350 | 585 | 204,750 |
| 1986 | 350 | 570 | 199,500 |

CATTLE: JANUARY 1, INVENTORY BY CLASSES, VERMONT, 1975 - 1986

| YEAR | ALL CATTLE AND CALVES | COWS & HEIFERS THAT HAVE CALVED | | HEIFERS 500 LBS. & OVER | | | STEERS 500 LBS.+ | BULLS 500 LBS.+ | STEERS, HEIFERS & BULLS -500 LBS. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | REPLACEMENTS | | OTHER | | | |
| | | BEEF | MILK | BEEF COW | MILK COW | | | | |
| | | | | | 1,000 | | | | |
| 1975 | 336 | 14 | 192 | 4 | 62 | 4 | 3 | 5 | 52 |
| 1976 | 346 | 14 | 194 | 5 | 63 | 4 | 3 | 5 | 58 |
| 1977 | 338 | 13 | 193 | 4 | 63 | 4 | 3 | 5 | 53 |
| 1978 | 336 | 13 | 194 | 3 | 61 | 3 | 3 | 5 | 54 |
| 1979 | 329 | 11 | 188 | 3 | 62 | 3 | 3 | 4 | 55 |
| 1980 | 340 | 13 | 187 | 3 | 68 | 2 | 3 | 4 | 60 |
| 1981 | 337 | 11 | 188 | 2 | 69 | 1 | 2 | 3 | 61 |
| 1982 | 360 | 12 | 190 | 4 | 77 | 2 | 4 | 4 | 67 |
| 1983 | 379 | 10 | 194 | 3 | 92 | 1 | 3 | 3 | 73 |
| 1984 | 360 | 14 | 190 | 3 | 74 | 1 | 4 | 4 | 70 |
| 1985 | 350 | 10 | 186 | 3 | 73 | 2 | 4 | 4 | 68 |
| 1986 | 350 | 10 | 188 | 3 | 71 | 2 | 4 | 4 | 68 |

CATTLE AND CALVES: INVENTORY, SUPPLY AND DISPOSITION, VERMONT, 1975 - 1985

| YEAR | ALL CATTLE ON HAND JAN. 1 | CALF CROP | INSHIPMENTS | MARKETINGS | | FARM SLAUGHTER | DEATHS | |
|---|---|---|---|---|---|---|---|---|
| | | | | CATTLE | CALVES | CATTLE & CALVES | CATTLE | CALVES |
| | | | | 1,000 | | | | |
| 1975 | 336 | 187 | 8 | 83 | 78 | 3 | 5 | 16 |
| 1976 | 346 | 183 | 13 | 101 | 82 | 3 | 6 | 12 |
| 1977 | 338 | 184 | 19 | 103 | 72 | 2 | 8 | 20 |
| 1978 | 336 | 175 | 9 | 97 | 74 | 2 | 4 | 14 |
| 1979 | 329 | 184 | 5 | 79 | 76 | 2 | 5 | 16 |
| 1980 | 340 | 180 | 5 | 58 | 99 | 4 | 7 | 20 |
| 1981 | 337 | 180 | 14 | 46 | 93 | 3 | 9 | 20 |
| 1982 | 360 | 190 | 27 | 68 | 87 | 3 | 10 | 30 |
| 1983 | 379 | 185 | 10 | 88 | 91 | 2 | 10 | 23 |
| 1984 | 360 | 187 | 14 | 82 | 98 | 3 | 8 | 20 |
| 1985 | 350 | 195 | 14 | 53 | 123 | 3 | 8 | 22 |

CATTLE AND CALVES: PRODUCTION AND INCOME, VERMONT, 1975 - 1985

| YEAR | PRODUCTION | MARKETINGS | PRICE PER 100 POUNDS | | VALUE OF HOME CONSUMPTION | GROSS INCOME |
|---|---|---|---|---|---|---|
| | | | CATTLE | CALVES | | |
| | 1,000 Pounds | | Dollars | | 1,000 Dollars | |
| 1975 | 92,075 | 89,241 | 21.60 | 23.20 | 809 | 20,194 |
| 1976 | 100,635 | 110,343 | 24.90 | 29.30 | 1,363 | 29,153 |
| 1977 | 99,015 | 112,295 | 25.80 | 35.00 | 991 | 30,543 |
| 1978 | 93,985 | 106,485 | 40.40 | 56.00 | 1,551 | 45,581 |
| 1979 | 94,758 | 91,048 | 57.00 | 76.00 | 1,642 | 54,810 |
| 1980 | 66,063 | 68,173 | 58.00 | 72.00 | 3,341 | 44,087 |
| 1981 | 66,800 | 53,320 | 53.00 | 57.00 | 3,053 | 31,610 |
| 1982 | 85,200 | 81,210 | 46.00 | 54.00 | 2,853 | 40,742 |
| 1983 | 86,110 | 106,960 | 41.00 | 47.00 | 2,151 | 46,423 |
| 1984 | 87,840 | 100,510 | 43.00 | 48.00 | 3,640 | 47,433 |
| 1985 | 66,270 | 71,210 | 40.00 | 45.00 | 2,967 | 32,174 |

HOGS: PRODUCTION AND INCOME, VERMONT, 1975 - 1985

| YEAR | PRODUCTION | MARKETINGS | PRICE PER 100 POUNDS | VALUE OF HOME CONSUMPTION | GROSS INCOME |
|---|---|---|---|---|---|
| | 1,000 Pounds | | Dollars | 1,000 Dollars | |
| 1975 | 2,403 | 1,941 | 45.00 | 197 | 1,070 |
| 1976 | 2,615 | 2,094 | 45.00 | 205 | 1,147 |
| 1977 | 3,233 | 2,476 | 37.00 | 168 | 1,084 |
| 1978 | 2,882 | 2,555 | 45.00 | 246 | 1,396 |
| 1979 | 4,019 | 2,784 | 44.00 | 400 | 1,625 |
| 1980 | 10,939 | 9,025 | 37.00 | 664 | 4,003 |
| 1981 | 7,096 | 4,965 | 43.00 | 839 | 2,974 |
| 1982 | 6,945 | 6,413 | 54.00 | 539 | 4,002 |
| 1983 | 5,179 | 3,689 | 42.00 | 596 | 2,145 |
| 1984 | 4,044 | 3,458 | 46.00 | 395 | 1,986 |
| 1985 | 3,358 | 2,555 | 41.00 | 373 | 1,421 |

HOGS: INVENTORY NUMBER, PIG CROP AND DISPOSITION, VERMONT, 1975 - 1985

| YEAR | ON HAND DEC 1st PREVIOUS YEAR | PIG CROP | | MARKETINGS | FARM SLAUGHTER | DEATHS |
|---|---|---|---|---|---|---|
| | | DEC - MAY | JUN - NOV | | | |
| | | | H e a d | | | |
| 1975 | 5,100 | 4,700 | 3,300 | 7,300 | 500 | 300 |
| 1976 | 5,000 | 4,900 | 4,500 | 7,600 | 500 | 300 |
| 1977 | 6,000 | 5,000 | 5,700 | 8,800 | 500 | 400 |
| 1978 | 7,000 | 4,400 | 5,000 | 9,100 | 600 | 400 |
| 1979 | 6,300 | 7,000 | 7,500 | 10,900 | 1,000 | 400 |
| 1980 | 8,500 | 18,000 | 18,000 | 32,100 | 3,000 | 1,400 |
| 1981 | 8,000 | 15,000 | 11,000 | 21,000 | 3,000 | 1,000 |
| 1982 | 9,000 | 13,000 | 11,000 | 22,900 | 1,200 | 1,000 |
| 1983 | 7,900 | 8,100 | 9,100 | 14,300 | 2,600 | 300 |
| 1984 | 7,900 | 6,800 | 6,500 | 13,000 | 1,100 | 300 |
| 1985 | 6,800 | 5,600 | 6,100 | 9,500 | 2,000 | 600 |

HOGS: NUMBER AND VALUE ON FARMS, DECEMBER 1, VERMONT, 1974 - 1985

| YEAR | NUMBER | | | VALUE | |
|---|---|---|---|---|---|
| | BREEDING | MARKET | TOTAL | PER HEAD | TOTAL |
| | | Head | | Dollars | 1,000 Dollars |
| 1974 | 1,300 | 3,800 | 5,100 | 52.50 | 268 |
| 1975 | 1,500 | 3,500 | 5,000 | 68.50 | 343 |
| 1976 | 1,300 | 4,700 | 6,000 | 55.00 | 330 |
| 1977 | 1,600 | 5,400 | 7,000 | 75.50 | 529 |
| 1978 | 1,300 | 5,000 | 6,300 | 86.00 | 542 |
| 1979 | 1,700 | 6,800 | 8,500 | 63.00 | 536 |
| 1980 | 2,400 | 5,600 | 8,000 | 86.00 | 688 |
| 1981 | 2,700 | 6,300 | 9,000 | 89.00 | 801 |
| 1982 | 1,700 | 6,200 | 7,900 | 79.50 | 628 |
| 1983 | 1,600 | 6,300 | 7,900 | 79.00 | 624 |
| 1984 | 1,200 | 5,600 | 6,800 | 74.50 | 507 |
| 1985 | 1,000 | 5,400 | 6,400 | 78.00 | 499 |

HOGS: PIG CROP, SOWS FARROWED AND PIGS SAVED, VERMONT, 1975 - 1985

| YEAR | SPRING CROP (DEC - MAY) | | | FALL CROP (JUN - NOV) | | | TOTAL PIG CROP |
|---|---|---|---|---|---|---|---|
| | SOWS | PIGS / LITTER | PIGS SAVED | SOWS | PIGS / LITTER | PIGS SAVED | |
| | | | Head | | | | |
| 1975 | 700 | 6.7 | 4,700 | 500 | 6.6 | 3,300 | 8,000 |
| 1976 | 700 | 7.0 | 4,900 | 600 | 7.5 | 4,500 | 9,400 |
| 1977 | 700 | 7.2 | 5,000 | 800 | 7.1 | 5,700 | 10,700 |
| 1978 | 600 | 7.3 | 4,400 | 700 | 7.2 | 5,000 | 9,400 |
| 1979 | 900 | 7.8 | 7,000 | 1,000 | 7.5 | 7,500 | 14,500 |
| 1980 | 2,500 | 7.2 | 18,000 | 2,700 | 6.7 | 18,000 | 36,000 |
| 1981 | 2,000 | 7.5 | 15,000 | 1,400 | 7.5 | 11,000 | 26,000 |
| 1982 | 1,600 | 8.3 | 13,000 | 1,400 | 7.5 | 11,000 | 24,000 |
| 1983 | 1,100 | 7.4 | 8,100 | 1,100 | 8.3 | 9,100 | 17,200 |
| 1984 | 800 | 8.5 | 6,800 | 900 | 7.2 | 6,500 | 13,300 |
| 1985 | 900 | 6.2 | 5,600 | 800 | 7.6 | 6,100 | 11,700 |

SHEEP AND LAMBS: INVENTORY NUMBER BY CLASS AND VALUE, JANUARY 1, VERMONT, 1975 - 1986

| YEAR | LAMBS | | | ONE YEAR AND OVER | | ALL SHEEP & LAMBS | VALUE | |
|---|---|---|---|---|---|---|---|---|
| | ALL LAMBS | EWES | WETHERS AND RAMS | EWES | WETHERS AND RAMS | | PER HEAD | TOTAL |
| | | | Head | | | | Dollars | 1,000 Dollars |
| 1975 | 1,600 | 1,200 | 400 | 4,800 | 400 | 6,800 | 42.50 | 289 |
| 1976 | 1,500 | 1,100 | 400 | 5,100 | 300 | 6,900 | 43.50 | 300 |
| 1977 | 1,700 | 1,100 | 600 | 5,100 | 300 | 7,100 | 45.00 | 320 |
| 1978 | 1,900 | 1,300 | 600 | 5,600 | 400 | 7,900 | 48.00 | 379 |
| 1979 | 2,000 | 1,400 | 600 | 5,600 | 400 | 8,000 | 57.00 | 456 |
| 1980 | 3,500 | 3,000 | 500 | 8,000 | 500 | 12,000 | 75.50 | 906 |
| 1981 | 3,600 | 3,000 | 600 | 8,000 | 400 | 12,000 | 89.00 | 1,068 |
| 1982 | 4,000 | 3,000 | 1,000 | 11,000 | 1,000 | 16,000 | 96.50 | 1,544 |
| 1983 | 3,000 | 2,000 | 1,000 | 10,000 | 1,000 | 14,000 | 93.50 | 1,309 |
| 1984 | 4,000 | 3,000 | 1,000 | 9,000 | 1,000 | 14,000 | 79.50 | 1,113 |
| 1985 | 4,000 | 3,000 | 1,000 | 10,000 | 1,000 | 15,000 | 103.00 | 1,545 |
| 1986 | 3,000 | 2,000 | 1,000 | 9,000 | 1,000 | 13,000 | 103.00 | 1,339 |

SHEEP AND LAMBS: INVENTORY NUMBERS, LAMB CROP AND DISPOSITION, VERMONT, 1975 - 1985

| YEAR | ALL SHEEP AND LAMBS ON HAND JAN. 1 | LAMB CROP | MARKETINGS | | FARM SLAUGHTER SHEEP & LAMBS | DEATHS SHEEP & LAMBS |
|---|---|---|---|---|---|---|
| | | | SHEEP | LAMBS | | |
| | | | Head | | | |
| 1975 | 6,800 | 5,700 | 1,100 | 2,900 | 600 | 1,000 |
| 1976 | 6,900 | 6,000 | 1,100 | 2,800 | 600 | 1,300 |
| 1977 | 7,100 | 6,200 | 500 | 2,600 | 600 | 1,700 |
| 1978 | 7,900 | 6,700 | 1,500 | 3,100 | 800 | 1,200 |
| 1979 | 8,000 | 7,000 | 1,100 | 2,400 | 500 | 1,000 |
| 1980 | 12,000 | 10,000 | 3,200 | 4,700 | 700 | 1,400 |
| 1981 | 12,000 | 10,000 | 1,600 | 4,000 | 800 | 1,800 |
| 1982 | 16,000 | 13,000 | 4,500 | 7,800 | 800 | 1,900 |
| 1983 | 14,000 | 12,000 | 3,500 | 6,200 | 600 | 1,700 |
| 1984 | 14,000 | 14,000 | 2,200 | 8,300 | 300 | 2,200 |
| 1985 | 15,000 | 13,000 | 4,600 | 8,400 | 400 | 1,600 |

SHEEP AND LAMBS: PRODUCTION AND INCOME, VERMONT, 1975 - 1985

| YEAR | PRODUCTION | MARKETINGS | PRICE PER 100 POUNDS | | VALUE OF HOME CONSUMPTION | GROSS INCOME |
|---|---|---|---|---|---|---|
| | | | SHEEP | LAMBS | | |
| | 1,000 Pounds | | Dollars | | 1,000 Dollars | |
| 1975 | 457 | 360 | 22.00 | 62.00 | 51 | 217 |
| 1976 | 440 | 319 | 24.00 | 66.00 | 67 | 218 |
| 1977 | 442 | 238 | 25.00 | 67.00 | 68 | 199 |
| 1978 | 542 | 398 | 35.00 | 80.00 | 109 | 336 |
| 1979 | 666 | 258 | 36.00 | 81.00 | 114 | 256 |
| 1980 | 868 | 709 | 43.00 | 76.00 | 127 | 524 |
| 1981 | 884 | 415 | 32.00 | 78.00 | 110 | 335 |
| 1982 | 809 | 817 | 35.00 | 77.00 | 155 | 582 |
| 1983 | 1,066 | 998 | 33.00 | 87.00 | 94 | 726 |
| 1984 | 1,257 | 1,005 | 36.00 | 88.00 | 103 | 844 |
| 1985 | 1,217 | 1,335 | 40.00 | 90.00 | 96 | 1,010 |

WOOL: PRODUCTION AND VALUE, VERMONT, 1975 - 1985

| YEAR | SHEEP SHORN | WEIGHT PER FLEECE | SHORN WOOL PRODUCTION | PRICE PER POUND | VALUE |
|---|---|---|---|---|---|
| | Head | Pounds | 1,000 Pounds | Cents | 1,000 Dollars |
| 1975 | 5,600 | 6.9 | 39 | 40 | 16 |
| 1976 | 5,700 | 7.4 | 42 | 64 | 27 |
| 1977 | 6,200 | 6.8 | 42 | 74 | 31 |
| 1978 | 7,300 | 7.5 | 55 | 76 | 42 |
| 1979 | 7,500 | 7.2 | 54 | 85 | 46 |
| 1980 | 9,000 | 6.9 | 62 | 82 | 51 |
| 1981 | 14,000 | 7.4 | 104 | 84 | 87 |
| 1982 | 14,000 | 6.9 | 97 | 68 | 66 |
| 1983 | 13,000 | 6.9 | 90 | 60 | 54 |
| 1984 | 14,000 | 6.7 | 94 | 71 | 67 |
| 1985 | 13,000 | 6.9 | 90 | 66 | 59 |

## POULTRY HIGHLIGHTS

### EGGS:

Vermont laying flocks during 1985 produced 67 million eggs, 2 million more than the previous year. The average daily rate of lay per 100 birds was 74 percent, slightly lower than the 1984 rate. Poultrymen received 91¢ per dozen for eggs in 1985, 16¢ less than the preceding year, and the lowest amount since 1980. Gross income from egg production in 1985 was nearly $5.1 million, 22 percent below 1984 and the lowest since 1972.

### CHICKENS:

The December 1, 1985 inventory of chickens on farms (excluding broilers) declined to a record low of 300,000 birds, 17 percent fewer than a year ago. The hens and pullets of laying age comprised 73 percent of the number of chickens on farms in 1985, compared with 70 percent in 1984. The total inventory value of all chickens on December 1, 1985 was $810,000, 15 percent lower than a year earlier. Poultrymen marketed slightly over 1.0 million pounds of poultry during 1985 at 12.0¢ per pound.

POULTRY: INVENTORY BY CLASS AND VALUE, VERMONT, DECEMBER 1, 1974 - 1985

| YEAR | CHICKENS, EXCLUDING BROILERS | | | | | | VALUE PER HEAD | TOTAL VALUE |
|---|---|---|---|---|---|---|---|---|
| | HENS AND PULLETS OF LAYING AGE | | PULLETS NOT OF LAYING AGE | | OTHER | TOTAL | | |
| | HENS | PULLETS | 3 MONTHS AND OLDER | UNDER 3 MONTHS | | | | |
| | 1,000 | | | | | | Dollars | 1,000 Dollars |
| 1974 | 160 | 376 | 48 | 42 | 11 | 637 | 2.30 | 1,465 |
| 1975 | 125 | 347 | 83 | 55 | 3 | 613 | 2.25 | 1,379 |
| 1976 | 138 | 337 | 73 | 73 | 3 | 624 | 2.40 | 1,498 |
| 1977 | 167 | 323 | 30 | 72 | 6 | 598 | 2.35 | 1,405 |
| 1978 | 132 | 293 | 57 | 26 | 4 | 512 | 2.25 | 1,152 |
| 1979 | 143 | 267 | 44 | 49 | 3 | 506 | 2.30 | 1,164 |
| 1980 | 140 | 202 | 52 | 33 | 8 | 435 | 2.35 | 1,022 |
| 1981 | 149 | 165 | 62 | 37 | 12 | 425 | 2.45 | 1,041 |
| 1982 | 149 | 163 | 61 | 63 | 4 | 440 | 2.20 | 968 |
| 1983 | 62 | 178 | 41 | 40 | 4 | 325 | 2.40 | 780 |
| 1984 | 80 | 173 | 54 | 52 | 2 | 361 | 2.65 | 957 |
| 1985 | 101 | 119 | 53 | 25 | 2 | 300 | 2.70 | 810 |

EGGS: PRODUCTION AND VALUE, VERMONT, 1975 - 1985

| YEAR | EGGS PRODUCED | EGGS SOLD | PRICE PER DOZEN | CASH RECEIPTS | VALUE OF PRODUCTION |
|---|---|---|---|---|---|
| | Million | | Cents | 1,000 Dollars | |
| 1975 | 115 | 113 | 74.7 | 7,034 | 7,159 |
| 1976 | 115 | 114 | 78.1 | 7,420 | 7,485 |
| 1977 | 117 | 115 | 75.1 | 7,197 | 7,322 |
| 1978 | 110 | 108 | 75.9 | 6,831 | 6,958 |
| 1979 | 99 | 97 | 83.1 | 6,717 | 6,856 |
| 1980 | 100 | 98 | 84.6 | 6,909 | 7,050 |
| 1981 | 81 | 78 | 95.2 | 6,188 | 6,426 |
| 1982 | 79 | 77 | 93.0 | 5,968 | 6,123 |
| 1983 | 69 | 67 | 98.0 | 5,472 | 5,635 |
| 1984 | 65 | 63 | 107.0 | 5,618 | 5,796 |
| 1985 | 67 | 1/ | 91.0 | 1/ | 5,081 |

1/ Estimate discontinued

POULTRY: AVERAGE NUMBER OF LAYERS BY QUARTERS AND ANNUAL, VERMONT, 1975 - 1985

| QUARTER | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1,000 | | | | | |
| DEC-FEB 1/ | 524 | 482 | 466 | 478 | 421 | 397 | 336 | 318 | 311 | 239 | 257 |
| MAR-MAY | 501 | 486 | 463 | 450 | 413 | 383 | 322 | 308 | 268 | 236 | 255 |
| JUN-AUG | 484 | 479 | 475 | 438 | 364 | 416 | 329 | 290 | 228 | 238 | 246 |
| SEP-NOV | 475 | 475 | 485 | 434 | 365 | 395 | 329 | 293 | 233 | 247 | 232 |
| ANNUAL | 496 | 481 | 472 | 450 | 391 | 398 | 329 | 302 | 260 | 240 | 248 |

EGGS: DAILY RATE OF LAY BY QUARTERS AND ANNUAL, VERMONT, 1975 - 1985

| QUARTER | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Percent | | | | | |
| DEC-FEB 1/ | 67.9 | 61.6 | 69.1 | 67.4 | 68.6 | 69.2 | 66.1 | 73.4 | 75.0 | 73.6 | 73.5 |
| MAR-MAY | 65.1 | 64.9 | 68.1 | 65.2 | 71.1 | 71.0 | 67.5 | 71.6 | 73.0 | 73.7 | 72.5 |
| JUN-AUG | 60.6 | 68.1 | 66.4 | 67.0 | 68.7 | 70.5 | 66.1 | 70.7 | 71.5 | 73.1 | 75.1 |
| SEP-NOV | 60.2 | 67.1 | 68.0 | 68.4 | 69.2 | 64.0 | 70.1 | 72.3 | 70.7 | 75.6 | 75.8 |
| ANNUAL | 63.5 | 65.3 | 67.9 | 67.0 | 69.4 | 68.6 | 67.4 | 71.8 | 72.6 | 74.2 | 74.0 |

EGGS: TOTAL PRODUCTION BY QUARTERS AND ANNUAL, VERMONT, 1975 - 1985

| QUARTER | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Million | | | | | |
| DEC-FEB 1/ | 32 | 27 | 29 | 29 | 26 | 25 | 20 | 21 | 21 | 16 | 17 |
| MAR-MAY | 30 | 29 | 29 | 27 | 27 | 25 | 20 | 20 | 18 | 16 | 17 |
| JUN-AUG | 27 | 30 | 29 | 27 | 23 | 27 | 20 | 19 | 15 | 16 | 17 |
| SEP-NOV | 26 | 29 | 30 | 27 | 23 | 23 | 21 | 19 | 15 | 17 | 16 |
| ANNUAL | 115 | 115 | 117 | 110 | 99 | 100 | 81 | 79 | 69 | 65 | 67 |

1/ December previous year

CHICKENS: PRODUCTION, DISPOSITION AND INCOME, VERMONT, 1975 - 1985

| YEAR | NUMBER OF BIRDS | | | LIVEWEIGHT | | | PRICE PER POUND | GROSS INCOME |
|---|---|---|---|---|---|---|---|---|
| | PRODUCED | CONSUMED | SOLD | PRODUCED | CONSUMED | SOLD | | |
| | 1,000 | | | 1,000 Pounds | | | Cents | 1,000 Dollars |
| 1975 | 422 | 9 | 437 | 2,030 | 43 | 2,229 | 10.2 | 231 |
| 1976 | 397 | 9 | 377 | 2,018 | 43 | 1,960 | 13.3 | 267 |
| 1977 | 383 | 9 | 400 | 2,076 | 43 | 2,080 | 11.3 | 240 |
| 1978 | 318 | 9 | 395 | 1,753 | 43 | 2,054 | 12.3 | 258 |
| 1979 | 358 | 9 | 355 | 1,803 | 43 | 1,846 | 13.2 | 250 |
| 1980 | 288 | 9 | 350 | 1,537 | 43 | 1,820 | 8.3 | 155 |
| 1981 | 279 | 9 | 280 | 1,418 | 43 | 1,456 | 9.0 | 135 |
| 1982 | 244 | 9 | 220 | 1,172 | 43 | 1,144 | 8.0 | 95 |
| 1983 | 189 | 9 | 295 | 1,095 | 43 | 1,534 | 10.5 | 166 |
| 1984 | 202 | 14 | 152 | 977 | 67 | 790 | 16.5 | 141 |
| 1985 | 1/ | 1/ | 189 | 1/ | 1/ | 1,040 | 12.0 | 125 |

1/ Estimate discontinued

HATCH: EGG-TYPE CHICKS BY COMMERCIAL HATCHERIES, NEW ENGLAND, 1978 - 1985

| MONTH | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 |
|---|---|---|---|---|---|---|---|---|
| | | | | 1,000 | | | | |
| JANUARY | 1,668 | 1,860 | 2,150 | 1,767 | 1,102 | 1,626 | 1,911 | 1,670 |
| FEBRUARY | 1,684 | 1,936 | 1,899 | 1,837 | 1,230 | 1,370 | 1,828 | 1,580 |
| MARCH | 1,837 | 2,128 | 1,990 | 2,024 | 1,685 | 2,008 | 2,385 | 1,709 |
| APRIL | 2,145 | 2,470 | 1,797 | 2,060 | 2,015 | 1,947 | 2,299 | 2,137 |
| MAY | 2,231 | 2,440 | 2,098 | 1,954 | 2,221 | 2,018 | 1,981 | 1,858 |
| JUNE | 2,347 | 2,165 | 1,899 | 1,970 | 1,763 | 2,070 | 2,269 | 1,689 |
| JULY | 2,131 | 2,131 | 1,782 | 1,676 | 1,646 | 1,716 | 1,891 | 1,465 |
| AUGUST | 1,967 | 2,270 | 2,097 | 1,647 | 1,368 | 1,687 | 1,862 | 1,814 |
| SEPTEMBER | 1,886 | 1,438 | 1,714 | 1,748 | 1,426 | 1,894 | 1,613 | 1,635 |
| OCTOBER | 2,062 | 1,938 | 1,934 | 1,896 | 1,603 | 1,669 | 2,034 | 1,777 |
| NOVEMBER | 1,863 | 2,071 | 1,693 | 1,538 | 1,512 | 1,797 | 1,912 | 1,718 |
| DECEMBER | 1,850 | 2,233 | 1,738 | 1,467 | 1,740 | 2,094 | 1,909 | 1,732 |
| ANNUAL | 23,671 | 25,080 | 22,791 | 21,584 | 19,311 | 21,896 | 23,894 | 20,784 |

# CROP HIGHLIGHTS

HAY:

Hay output from Vermont farms totaled 950,000 tons in 1985, 1 percent above 1984 production. The 1985 hay crop was valued at $76 million, 4 percent less than the previous year. Alfalfa and alfalfa mixtures comprised 27 percent of all hay production. Growers cut hay from 120,000 acres, the largest alfalfa acreage in the state since 1971. Total alfalfa output increased 4 percent over 1984 to 300,000 tons. Other hay weighed in at 650,000 tons, unchanged from 1984 levels.

CORN SILAGE:

Corn silage production in Vermont totaled 1.38 million tons in 1985, 1 percent above 1984 output. Growing conditions were not favorable for corn in 1985. Very dry months of July and August were particularly damaging, especially to corn planted on clay soils. Plentiful rain in September came too late, slowing ripening and turning fields to mud. Wet fields slowed harvest significantly; however, a late frost helped growers get much of the crop chopped. Farmers harvested 95,000 acres for silage, and averaged 14.5 tons to the acre. Value of the 1985 silage crop totaled $35.8 million, 3 percent above 1984.

POTATOES:

Vermont potato production totaled 47,000 cwt. in 1985, 25 percent under the previous year. Dry conditions during the summer months reduced tuber set; however, late August rains promoted good potato sizing. Growers harvested 200 acres, with average yields of 235 cwt. per acre. Total value of the 1985 crop was $150,000, less than half the previous year's value.

APPLES:

Vermont apple production totaled 1.17 million bushels (42-pound units) in 1985, 20 percent above 1984's low output. Fruit trees survived the winter with little injury, frosts were limited to low lying areas, and good pollinating weather followed. Hurricane Gloria's high winds hit in late September, diminishing in severity as the storm travelled northward through the state. Fruit losses were variable, but overall, an estimated 48,000 bushels were damaged and could not be utilized. Value of the 1985 crop totaled $7.7 million, 30 percent above 1984, and exceeded 1983 value by 12 percent.

CORN: ACREAGE, PRODUCTION AND VALUE, VERMONT, 1975 - 1985

| YEAR | ACRES PLANTED FOR ALL PURPOSES | SILAGE | | | |
|---|---|---|---|---|---|
| | | ACRES HARVESTED | YIELD PER ACRE | TOTAL PRODUCTION | VALUE OF PRODUCTION |
| | 1,000 | | Tons | 1,000 Tons | 1,000 Dollars |
| 1975 | 100 | 94 | 13.5 | 1,269 | 31,725 |
| 1976 | 101 | 93 | 15.5 | 1,442 | 25,451 |
| 1977 | 105 | 96 | 12.5 | 1,200 | 28,020 |
| 1978 | 109 | 100 | 14.0 | 1,400 | 28,700 |
| 1979 | 108 | 98 | 15.0 | 1,470 | 34,545 |
| 1980 | 109 | 93 | 16.0 | 1,488 | 34,224 |
| 1981 | 110 | 92 | 16.0 | 1,472 | 33,414 |
| 1982 | 108 | 93 | 14.5 | 1,349 | 33,051 |
| 1983 | 108 | 94 | 14.5 | 1,363 | 34,348 |
| 1984 | 113 | 97 | 14.0 | 1,358 | 34,901 |
| 1985 | 110 | 95 | 14.5 | 1,378 | 35,828 |

POTATOES: ACREAGE, PRODUCTION AND VALUE, VERMONT, 1975 - 1985

| YEAR | ACRES HARVESTED | YIELD PER ACRE | TOTAL PRODUCTION | AVERAGE PRICE PER CWT. | VALUE OF PRODUCTION |
|---|---|---|---|---|---|
| | | Cwt. | 1,000 Cwt. | Dollars | 1,000 Dollars |
| 1975 | 1,000 | 235 | 235 | 6.50 | 1,528 |
| 1976 | 1,100 | 205 | 226 | 6.20 | 1,401 |
| 1977 | 1,000 | 235 | 235 | 5.80 | 1,363 |
| 1978 | 800 | 200 | 160 | 6.80 | 1,088 |
| 1979 | 700 | 210 | 147 | 6.10 | 897 |
| 1980 | 500 | 200 | 100 | 8.05 | 805 |
| 1981 | 500 | 220 | 110 | 5.80 | 638 |
| 1982 | 400 | 230 | 92 | 4.00 | 368 |
| 1983 | 400 | 220 | 88 | 6.50 | 572 |
| 1984 | 300 | 210 | 63 | 6.25 | 394 |
| 1985 | 200 | 235 | 47 | 3.20 | 150 |

APPLES: PRODUCTION AND VALUE, VERMONT, 1975 - 1985

| YEAR | TOTAL PRODUCTION 1/ | UTILIZED PRODUCTION | PRICE PER UNIT | VALUE OF UTILIZED PRODUCTION |
|---|---|---|---|---|
| | 1,000 42-Pound Units | | Dollars | 1,000 Dollars |
| 1975 | 1,119 | 1,000 | 4.33 | 4,326 |
| 1976 | 1,119 | 1,119 | 5.04 | 5,640 |
| 1977 | 1,119 | 1,048 | 5.25 | 5,500 |
| 1978 | 1,167 | 1,167 | 5.37 | 6,272 |
| 1979 | 1,167 | 1,167 | 5.08 | 5,929 |
| 1980 | 1,190 | 1,190 | 6.46 | 7,682 |
| 1981 | 667 | 667 | 7.27 | 4,852 |
| 1982 | 1,238 | 1,238 | 6.17 | 7,644 |
| 1983 | 1,143 | 1,143 | 6.06 | 6,921 |
| 1984 | 976 | 976 | 6.11 | 5,965 |
| 1985 | 1,167 | 1,119 | 6.92 | 7,742 |

1/ Estimates relate to production in orchards of 100 or more trees.

ALFALFA HAY: ACREAGE AND PRODUCTION, VERMONT, 1975 - 1985

| YEAR | ACRES HARVESTED | YIELD PER ACRE | PRODUCTION |
|---|---|---|---|
| | | Tons | |
| 1975 | 96,000 | 1.85 | 178,000 |
| 1976 | 96,000 | 2.25 | 216,000 |
| 1977 | 100,000 | 1.90 | 190,000 |
| 1978 | 100,000 | 2.55 | 255,000 |
| 1979 | 105,000 | 2.55 | 268,000 |
| 1980 | 110,000 | 2.25 | 248,000 |
| 1981 | 105,000 | 2.75 | 289,000 |
| 1982 | 110,000 | 2.70 | 297,000 |
| 1983 | 105,000 | 2.50 | 263,000 |
| 1984 | 115,000 | 2.50 | 288,000 |
| 1985 | 120,000 | 2.50 | 300,000 |

ALL OTHER HAY: ACREAGE AND PRODUCTION, VERMONT, 1975 - 1985

| YEAR | ACRES HARVESTED | YIELD PER ACRE | PRODUCTION |
|---|---|---|---|
| | | Tons | |
| 1975 | 356,000 | 1.55 | 552,000 |
| 1976 | 355,000 | 1.80 | 639,000 |
| 1977 | 345,000 | 1.55 | 535,000 |
| 1978 | 345,000 | 1.85 | 638,000 |
| 1979 | 330,000 | 1.70 | 561,000 |
| 1980 | 333,000 | 1.85 | 616,000 |
| 1981 | 335,000 | 2.00 | 670,000 |
| 1982 | 335,000 | 1.90 | 637,000 |
| 1983 | 340,000 | 1.95 | 663,000 |
| 1984 | 325,000 | 2.00 | 650,000 |
| 1985 | 325,000 | 2.00 | 650,000 |

ALL HAY: ACREAGE, PRODUCTION AND VALUE, VERMONT, 1975 - 1985

| YEAR | ACRES HARVESTED | YIELD PER ACRE | PRODUCTION | PRICE PER TON | VALUE OF PRODUCTION |
|---|---|---|---|---|---|
| | | Tons | | Dollars | 1,000 Dollars |
| 1975 | 452,000 | 1.62 | 730,000 | 77.00 | 56,210 |
| 1976 | 451,000 | 1.90 | 855,000 | 63.50 | 54,293 |
| 1977 | 445,000 | 1.63 | 725,000 | 64.00 | 46,400 |
| 1978 | 445,000 | 2.01 | 893,000 | 65.00 | 58,045 |
| 1979 | 435,000 | 1.91 | 829,000 | 63.00 | 52,227 |
| 1980 | 443,000 | 1.95 | 864,000 | 63.00 | 54,432 |
| 1981 | 440,000 | 2.18 | 959,000 | 65.00 | 62,335 |
| 1982 | 445,000 | 2.10 | 934,000 | 84.00 | 78,456 |
| 1983 | 445,000 | 2.08 | 926,000 | 88.00 | 81,488 |
| 1984 | 440,000 | 2.13 | 938,000 | 84.00 | 78,792 |
| 1985 | 445,000 | 2.13 | 950,000 | 80.00 | 76,000 |

## MAPLE SYRUP

The production of maple syrup during the 1986 season in Vermont totaled 338,000 gallons, 36 percent less than the previous season and the lowest production since 1980. The decrease in production from previous year was due to lower yield per tap, which more than offset a higher number of taps. The season was reported as being unfavorable, with the weather being mostly too warm and to a smaller degree, too cool. The season lasted about 26 days. The average opening date was around March 14, while the average closing date was approximately April 8. The sweetness of sap was near normal, with a reported average of 40 gallons of sap to make a gallon of syrup. The color of syrup was mostly medium to dark. The 1986 maple crop averaged around a record high $25.70 per gallon compared to $19.00 per gallon for maple syrup produced in 1985. The value of production for the 1986 season totaled $8.69 million, down $1.29 million from the 1985 crop. The lower value of production was due to the production decrease, more than offsetting the increase in average price from previous year.

MAPLE SYRUP: PRODUCTION AND VALUE, VERMONT, 1975 - 1986

| YEAR | PRODUCTION | SEASON AVERAGE PRICE PER GALLON | VALUE OF PRODUCTION |
|---|---|---|---|
| | 1,000 Gallons | Dollars | 1,000 Dollars |
| 1975 | 353 | 10.50 | 3,707 |
| 1976 | 334 | 11.00 | 3,674 |
| 1977 | 437 | 12.20 | 5,331 |
| 1978 | 410 | 13.00 | 5,330 |
| 1979 | 465 | 14.20 | 6,603 |
| 1980 | 315 | 16.40 | 5,166 |
| 1981 | 545 | 17.20 | 9,374 |
| 1982 | 500 | 16.50 | 8,250 |
| 1983 | 495 | 16.90 | 8,366 |
| 1984 | 530 | 17.10 | 9,063 |
| 1985 | 525 | 19.00 | 9,975 |
| 1986 | 338 | 25.70 | 8,687 |

MAPLE SYRUP PRICES: BY TYPE OF SALE AND SIZE OF CONTAINER, VERMONT, 1976 - 1986

| YEAR | RETAIL | | | | | WHOLESALE | | | | | ALL SALES EQUIVALENT PER GALLON |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | GAL | 1/2 GAL | QUART | PINT | 1/2 PINT | GAL | 1/2 GAL | QUART | PINT | 1/2 PINT | |
| | Dollars | | | | | | | | | | |
| 1976 | 11.20 | 6.40 | 3.85 | 2.50 | 1.50 | 10.20 | 5.90 | 3.50 | 2.20 | 1.30 | 11.00 |
| 1977 | 12.00 | 6.90 | 4.15 | 2.75 | 1.85 | 11.55 | 6.40 | 3.75 | 2.35 | 1.60 | 12.20 |
| 1978 | 12.93 | 7.27 | 4.35 | 2.89 | 1.88 | 11.44 | 6.62 | 3.89 | 2.49 | 1.54 | 13.00 |
| 1979 | 14.26 | 8.08 | 4.86 | 3.21 | 2.07 | 13.10 | 7.47 | 4.35 | 2.77 | 1.74 | 14.20 |
| 1980 | 16.64 | 9.28 | 5.49 | 3.56 | 2.39 | 15.50 | 8.89 | 5.09 | 3.15 | 2.12 | 16.40 |
| 1981 | 18.60 | 10.40 | 6.06 | 3.86 | 2.51 | 17.36 | 9.54 | 5.43 | 3.34 | 2.19 | 17.20 |
| 1982 | 18.39 | 10.49 | 6.05 | 3.80 | 2.51 | 16.55 | 8.99 | 5.21 | 3.25 | 2.00 | 16.50 |
| 1983 | 17.95 | 10.25 | 6.03 | 3.82 | 2.56 | 16.18 | 9.17 | 5.28 | 3.18 | 2.10 | 16.90 |
| 1984 | 18.08 | 10.25 | 6.01 | 3.77 | 2.60 | 16.39 | 9.53 | 5.31 | 3.31 | 2.22 | 17.10 |
| 1985 | 19.05 | 10.80 | 6.35 | 4.00 | 2.65 | 17.85 | 9.90 | 5.70 | 3.45 | 2.25 | 19.00 |
| 1986 | 23.45 | 13.70 | 8.00 | 5.05 | 3.35 | 23.30 | 13.60 | 7.50 | 4.40 | 2.80 | 25.70 |

FEED PRICES: AVERAGE PRICE PAID, BY MONTH, VERMONT, 1981 - 1985

| KIND AND YEAR | | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Dollars Per Ton | | | | | | | |
| Laying Feed | 1981 | 200 | 195 | 190 | 193 | 190 | 190 | 190 | 185 | 180 | 180 | 177 | 176 |
| | 1982 | 177 | 176 | 175 | 175 | 172 | 176 | 176 | 175 | 173 | 160 | 167 | 167 |
| | 1983 | 169 | 172 | 174 | 179 | 182 | 182 | 183 | 200 | 205 | 210 | 205 | 205 |
| | 1984 | 200 | 195 | 191 | 188 | 190 | 193 | 200 | 180 | 179 | 172 | 172 | 160 |
| | 1985 | 159 | 159 | 154 | 156 | 155 | 150 | 150 | 154 | 155 | 159 | 160 | 164 |
| Dairy Feed | | | | | | | | | | | | | |
| 16% protein | 1981 | 210 | 210 | 200 | 194 | 210 | 205 | 200 | 194 | 189 | 189 | 192 | 191 |
| | 1982 | 191 | 190 | 190 | 192 | 174 | 189 | 188 | 185 | 180 | 162 | 176 | 177 |
| | 1983 | 180 | 179 | 180 | 181 | 183 | 180 | 180 | 185 | 196 | 200 | 205 | 205 |
| | 1984 | 205 | 200 | 193 | 196 | 200 | 196 | 195 | 180 | 177 | 175 | 170 | 166 |
| | 1985 | 165 | 165 | 159 | 159 | 159 | 151 | 154 | 156 | 156 | 156 | 166 | 166 |
| 18% protein | 1981 | 215 | 215 | 205 | 200 | 215 | 215 | 210 | 205 | 200 | 205 | 200 | 200 |
| | 1982 | 200 | 198 | 198 | 198 | 184 | 196 | 193 | 191 | 187 | 169 | 181 | 182 |
| | 1983 | 183 | 181 | 182 | 182 | 184 | 181 | 181 | 186 | 197 | 205 | 215 | 215 |
| | 1984 | 210 | 205 | 199 | 199 | 200 | 197 | 200 | 180 | 179 | 177 | 173 | 170 |
| | 1985 | 170 | 167 | 162 | 159 | 159 | 152 | 154 | 156 | 156 | 156 | 169 | 171 |
| 20% protein | 1981 | 225 | 225 | 215 | 210 | 225 | 220 | 215 | 210 | 205 | 205 | 205 | 205 |
| | 1982 | 205 | 205 | 200 | 200 | 191 | 200 | 196 | 193 | 188 | 179 | 184 | 184 |
| | 1983 | 186 | 184 | 184 | 186 | 189 | 186 | 186 | 193 | 205 | 210 | 220 | 220 |
| | 1984 | 220 | 210 | 205 | 200 | 205 | 200 | 205 | 186 | 185 | 183 | 179 | 173 |
| | 1985 | 173 | 170 | 165 | 161 | 163 | 156 | 158 | 160 | 160 | 161 | 172 | 173 |
| | | | | | | Dollars Per Cwt. | | | | | | | |
| Bran | 1981 | 10.50 | 10.00 | 9.00 | 10.50 | 9.50 | 9.50 | 9.00 | 8.50 | 8.00 | 8.00 | 8.40 | 8.50 |
| | 1982 | 9.50 | 9.00 | 9.00 | 9.00 | 10.50 | 9.30 | 9.00 | 8.80 | 8.80 | 9.50 | 9.00 | 9.30 |
| | 1983 | 9.50 | 9.50 | 9.60 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 11.00 | 12.00 | 12.00 |
| | 1984 | 11.50 | 11.50 | 11.00 | 11.00 | 11.00 | 10.50 | 10.50 | 9.40 | 9.50 | 9.50 | 9.20 | 9.20 |
| | 1985 | 9.20 | 9.20 | 9.20 | 8.90 | 8.70 | 8.50 | 8.50 | 8.30 | 8.60 | 8.30 | 9.10 | 9.60 |
| Middlings | 1981 | 10.50 | 10.50 | 9.50 | 10.00 | 10.50 | 10.00 | 9.50 | 9.50 | 9.50 | 9.50 | 9.90 | 9.90 |
| | 1982 | 9.90 | 9.70 | 9.60 | 9.90 | 9.80 | 9.70 | 9.30 | 9.20 | 9.00 | 8.50 | 9.10 | 9.20 |
| | 1983 | 9.60 | 9.40 | 9.30 | 9.60 | 9.60 | 9.60 | 9.50 | 10.00 | 10.00 | 10.50 | 11.50 | 11.50 |
| | 1984 | 11.50 | 11.00 | 10.50 | 10.50 | 10.00 | 9.00 | 11.00 | 8.40 | 8.20 | 8.30 | 8.30 | 8.40 |
| | 1985 | 8.30 | 8.30 | 8.30 | 8.10 | 8.50 | 8.30 | 8.40 | 8.00 | 8.00 | 8.20 | 8.90 | 8.90 |
| Cornmeal | 1981 | 11.00 | 11.00 | 11.00 | 10.50 | 11.00 | 10.50 | 10.50 | 10.50 | 10.00 | 9.50 | 9.20 | 9.20 |
| | 1982 | 9.20 | 9.40 | 9.50 | 9.60 | 9.40 | 9.70 | 9.90 | 9.80 | 9.60 | 8.70 | 8.80 | 8.80 |
| | 1983 | 8.80 | 8.90 | 9.00 | 9.10 | 9.30 | 9.60 | 9.90 | 10.00 | 10.50 | 10.50 | 10.50 | 10.50 |
| | 1984 | 10.00 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 11.00 | 10.50 | 10.50 | 10.00 | 9.60 | 9.20 |
| | 1985 | 9.00 | 9.00 | 9.00 | 9.10 | 9.10 | 9.20 | 9.20 | 9.20 | 9.00 | 9.00 | 8.60 | 8.70 |
| Soybean Meal | 1981 | 17.00 | 16.50 | 16.50 | 16.50 | 17.00 | 16.50 | 16.00 | 16.00 | 15.50 | 15.00 | 15.00 | 15.00 |
| | 1982 | 15.50 | 16.00 | 16.00 | 15.50 | 15.50 | 16.00 | 16.00 | 15.50 | 15.00 | 14.00 | 14.50 | 15.00 |
| | 1983 | 15.00 | 15.00 | 14.50 | 15.00 | 15.00 | 15.00 | 15.00 | 16.00 | 17.00 | 17.00 | 17.50 | 17.50 |
| | 1984 | 16.00 | 16.00 | 15.00 | 15.00 | 15.00 | 14.00 | 13.50 | 12.50 | 12.00 | 11.50 | 11.50 | 11.50 |
| | 1985 | 11.50 | 11.50 | 11.50 | 11.00 | 10.50 | 10.00 | 10.00 | 10.50 | 10.50 | 11.00 | 11.50 | 12.00 |
| Molasses | 1981 | 10.00 | 10.00 | 10.00 | 9.20 | 9.50 | 9.00 | 9.00 | 9.00 | 9.00 | 8.70 | 8.30 | 8.10 |
| | 1982 | 8.10 | 8.00 | 8.00 | 7.80 | 7.70 | 7.80 | 7.80 | 7.80 | 7.80 | 8.00 | 7.80 | 7.60 |
| | 1983 | 7.60 | 7.60 | 7.60 | 7.60 | 7.80 | 7.60 | 7.60 | 7.60 | 7.60 | 7.60 | 7.60 | 7.80 |
| | 1984 | 7.60 | 7.60 | 7.60 | 7.60 | 7.60 | 7.40 | 8.00 | 7.50 | 7.30 | 7.20 | 7.20 | 7.40 |
| | 1985 | 7.60 | 7.50 | 6.90 | 7.30 | 7.00 | 7.10 | 7.20 | 7.20 | 7.20 | 7.30 | 7.30 | 7.40 |
| Stock Salt | 1981 | 8.00 | 7.70 | 7.70 | 7.00 | 7.90 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.50 | 8.50 |
| | 1982 | 9.00 | 8.20 | 8.20 | 8.20 | 8.60 | 8.40 | 8.50 | 8.70 | 8.50 | 8.00 | 8.80 | 8.80 |
| | 1983 | 8.70 | 8.70 | 8.50 | 8.50 | 8.30 | 8.40 | 8.00 | 8.40 | 8.40 | 8.00 | 8.10 | 8.10 |
| | 1984 | 8.70 | 8.70 | 8.70 | 8.90 | 8.70 | 8.70 | 10.00 | 8.80 | 8.70 | 8.70 | 8.60 | 8.60 |
| | 1985 | 9.80 | 9.50 | 9.50 | 9.50 | 9.00 | 8.80 | 9.00 | 4.20 | 9.10 | 9.10 | 9.20 | 9.20 |

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1985

| EXPENDITURE 2/ | NORTHEAST | | UNITED STATES | |
|---|---|---|---|---|
| | AVERAGE PER FARM 3/ | TOTAL EXPENDITURE 4/ | AVERAGE PER FARM 3/ | TOTAL EXPENDITURE 4/ |
| | Dollars | Million Dollars | Dollars | Million Dollars |
| TOTAL FARM PRODUCTION EXPENDITURES | 56,919 | 9,218 | 55,242 | 125,916 |
| LIVESTOCK & POULTRY: | 4,915 | 796 | 5,922 | 13,499 |
| Cattle Purchased | 2,519 | 408 | 4,704 | 10,722 |
| Hogs & Pigs Purchased | 148 | 24 | 398 | 907 |
| Poultry Purchased | 1,402 | 227 | 459 | 1,046 |
| Other Livestock & Poultry Expenses 5/ | 827 | 134 | 274 | 625 |
| FEED: | 11,942 | 1,934 | 7,940 | 18,098 |
| Grains | 2,198 | 356 | 2,159 | 4,922 |
| Hays & Forages | 358 | 58 | 940 | 2,141 |
| Mixed & Formula | 6,280 | 1,017 | 2,715 | 6,188 |
| Protein Concentrates | 2,729 | 442 | 1,661 | 3,785 |
| Minerals, Salt & Other Additives | 370 | 60 | 466 | 1,061 |
| FARM SERVICES: | 9,095 | 1,473 | 12,368 | 28,192 |
| Crop Custom Services | 364 | 59 | 762 | 1,736 |
| Livestock Custom Services | 303 | 49 | 394 | 898 |
| Custom Hired Freight & Trucking | 710 | 115 | 498 | 1,135 |
| Rent | 1,445 | 234 | 5,563 | 12,679 |
| Cash Rent | 1,241 | 201 | 2,357 | 5,372 |
| Share Rent | 204 | 33 | 3,206 | 7,307 |
| Marketing & Storage Expenses | 1,081 | 175 | 1,074 | 2,449 |
| Insurance | 1,167 | 189 | 1,089 | 2,482 |
| Leasing 6/ | 111 | 18 | 187 | 427 |
| Miscellaneous Farm Business Expenses 7/ | 648 | 105 | 794 | 1,811 |
| Utilities | 1,550 | 251 | 1,179 | 2,686 |
| Electricity | 1,223 | 198 | 972 | 2,214 |
| AGRICULTURAL CHEMICALS & SPRAYS: 8/ | 1,118 | 181 | 1,729 | 3,942 |
| FERTILIZER: 9/ | 3,192 | 517 | 3,779 | 8,614 |
| Commercial Fertilizers | 2,717 | 440 | 3,607 | 8,222 |
| INTEREST: 10/ | 3,569 | 578 | 5,494 | 12,522 |
| Farm Real Estate 10/ | 2,476 | 401 | 3,274 | 7,463 |
| Operating Loan 10/ | 1,093 | 177 | 2,219 | 5,059 |
| TAXES (PROPERTY & REAL ESTATE): 10/ | 1,680 | 272 | 1,172 | 2,672 |
| LABOR EXPENSES: | 7,706 | 1,248 | 4,811 | 10,965 |
| Cash Wages | 6,335 | 1,026 | 3,804 | 8,672 |
| FUELS & LUBRICANTS: | 2,563 | 415 | 2,829 | 6,449 |
| Diesel | 976 | 158 | 1,280 | 2,918 |
| Gasoline - Bulk | 797 | 129 | 677 | 1,543 |
| Gasoline - Service Station | 266 | 43 | 269 | 614 |

See Footnotes, Page 21

FARM PRODUCTION EXPENDITURES, NORTHEAST 1/ AND UNITED STATES, 1985

| EXPENDITURE 2/ | NORTHEAST | | UNITED STATES | |
|---|---|---|---|---|
| | AVERAGE PER FARM 3/ | TOTAL EXPENDITURE 4/ | AVERAGE PER FARM 3/ | TOTAL EXPENDITURE 4/ |
| | Dollars | Million Dollars | Dollars | Million Dollars |
| FARM SUPPLIES: 11/ | 1,260 | 204 | 779 | 1,775 |
| Supplies Used in Production | 772 | 125 | 540 | 1,231 |
| Containers Used for Marketing | 288 | 79 | 238 | 543 |
| BUILDING & FENCING: | 998 | 2,275 | 998 | 2,275 |
| New Construction & Remodeling | 840 | 136 | 667 | 1,520 |
| FARM AND LAND IMPROVEMENTS: | 500 | 81 | 457 | 1,042 |
| New Construction | 290 | 47 | 323 | 736 |
| TOTAL FARM MACHINERY: | 4,921 | 797 | 4,417 | 10,068 |
| SEEDS AND PLANTS: | 1,463 | 237 | 1,729 | 3,941 |
| TRUCKS AND AUTOS: | 1,253 | 203 | 773 | 1,762 |
| Trucks including beds, hydr. systems, etc. | 1,087 | 176 | 674 | 1,537 |

1/ Includes eleven states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.
2/ Farm share.
3/ Total expenditure divided by number of farms.
4/ Totals may not add, due to rounding.
5/ Excludes veterinary supplies; bedding, litter, straw & etc.; purchase of capital equipment for livestock and poultry; repair and maintenance of livestock and poultry equipment; other non-capitalized equipment for livestock and poultry; and custom feeding of livestock on a per head or gain basis and grazing fees for livestock. Includes purchases and leasing expenses for all other livestock and livestock products (eggs, wool, milk and leasing of livestock).
6/ Includes equipment renting.
7/ Excludes telephone and water, but includes irrigation water cost and fees for 1985.
8/ Excludes seed treatments.
9/ Includes materials and applications.
10/ Includes landlord expenditures.
11/ Includes bedding, litter, straw and etc.; other non-capitalized equipment for livestock and poultry. Excludes power farm shop equipment and motor supplies.

FARM BALANCE SHEET (Excluding Farm Households), VERMONT, DECEMBER 31, 1980 - 1984

| ITEM | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|
| | | | Million Dollars | | |
| Assets: | | | | | |
| Real Estate 1/ | 1,174.6 | 1,170.2 | 1,211.1 | 1,286.8 | 1,468.0 |
| Livestock and Poultry 2/ | 296.0 | 296.8 | 268.2 | 222.1 | 207.8 |
| Machinery and Motor Vehicles 3/ | 346.3 | 339.3 | 343.5 | 331.8 | 312.3 |
| Crops 4/ | 68.3 | 76.1 | 61.6 | 68.6 | 69.3 |
| Financial Assets | 80.6 | 82.7 | 89.3 | 92.0 | 94.9 |
| TOTAL FARM ASSETS | 1,965.8 | 1,965.1 | 1,973.8 | 2,001.3 | 2,152.3 |
| Claims: | | | | | |
| Real Estate Debt 5/ | 168.3 | 178.5 | 185.2 | 189.6 | 184.9 |
| Non-Real Estate Debt 6/ | 134.3 | 146.5 | 158.1 | 163.6 | 155.9 |
| CCC Loans | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| TOTAL FARM DEBT | 303.6 | 326.1 | 344.3 | 354.2 | 341.8 |
| Equity | 1,662.2 | 1,639.1 | 1,629.5 | 1,647.0 | 1,810.5 |

1/ Excludes value of operator dwellings.
2/ Excludes horses, mules, and broilers.
3/ Includes only farm share value for trucks and autos.
4/ All crops held on farms including crops under CCC and crops held off farms by farm operators.
5/ Excludes debt on operator dwellings.
6/ Excludes debt for non-farm purposes.

FARM PRODUCTION EXPENSES, VERMONT, 1980 - 1984

| CURRENT FARM OPERATING EXPENSES | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|
| | | | Million Dollars | | |
| Feed | 112.0 | 116.1 | 103.9 | 125.3 | 111.5 |
| Livestock | 2.9 | 7.1 | 8.4 | 3.8 | 5.5 |
| Seed | 3.5 | 3.4 | 2.9 | 2.7 | 3.2 |
| Fertilizer and Lime | 14.1 | 13.0 | 10.8 | 10.8 | 11.3 |
| Repairs and Operation of Capital Items | 42.9 | 44.6 | 41.0 | 40.0 | 40.8 |
| Hired Labor | 30.4 | 29.6 | 34.3 | 32.9 | 33.9 |
| Miscellaneous | 51.7 | 59.9 | 66.3 | 79.9 | 81.3 |
| TOTAL CURRENT FARM OPERATING EXPENSES | 257.5 | 273.7 | 267.6 | 295.4 | 287.5 |
| Depreciation and Other Consumption of Farm Capital | 59.3 | 68.0 | 68.5 | 69.6 | 69.7 |
| Taxes on Farm Property | 13.0 | 15.9 | 15.2 | 17.1 | 17.5 |
| Interest on Farm Mortgage Debt | 14.4 | 16.1 | 18.5 | 20.7 | 22.1 |
| Net Rent to Non-Operator Landlord | -2.9 | -3.1 | -3.0 | -3.3 | -3.3 |
| TOTAL PRODUCTION EXPENSES | 341.3 | 370.5 | 366.8 | 399.4 | 393.4 |

GROSS INCOME AND NET INCOME FROM FARMING, VERMONT, 1960 - 1984

| ITEM | 1960 | 1970 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|---|
| | | | | Million Dollars | | | |
| Gross Farm Income: | | | | | | | |
| Cash Receipts from Farm Marketing | 121.2 | 157.5 | 374.9 | 389.4 | 408.9 | 432.1 | 399.9 |
| Government Payment | 1.6 | 1.4 | 1.3 | 1.6 | 1.6 | 1.5 | 8.5 |
| Non-Money Income | 13.8 | 15.6 | 42.6 | 46.3 | 48.3 | 49.8 | 53.5 |
| Other Farm Income | .4 | .9 | 3.9 | 6.7 | 6.8 | 6.9 | 7.9 |
| TOTAL | 137.0 | 175.4 | 422.7 | 444.0 | 465.7 | 490.3 | 469.8 |
| Farm Production Expenses | 101.1 | 127.2 | 341.3 | 370.5 | 366.8 | 399.4 | 393.4 |
| Net Farm Income Before Inventory Adjustment | 36.0 | 48.2 | 81.4 | 73.4 | 98.8 | 90.8 | 76.4 |
| Net Change in Farm Inventory | 2.5 | 2.1 | 17.1 | 40.1 | 15.0 | -11.9 | -1.2 |
| Net Farm Income After Inventory Adjustment | 38.5 | 50.3 | 98.5 | 113.5 | 113.9 | 79.0 | 75.2 |

CROP AND LIVESTOCK PRODUCTION: RANK AMONG STATES, VERMONT AND NEW ENGLAND, 1985

| ITEM | UNIT | VERMONT | | | NEW ENGLAND | | |
|---|---|---|---|---|---|---|---|
| | | PRODUCTION | RANK | %U.S. TOTAL | PRODUCTION | RANK | %U.S. TOTAL |
| | | 1,000 | | | 1,000 | | |
| CROPS: | | | | | | | |
| Corn for Silage | tons | 1,378 | 22 | 1.3 | 4,257 | 9 | 4.1 |
| Maple Syrup | gallons | 525 | n/a | n/a | 669 | n/a | n/a |
| Hay, All | tons | 950 | 36 | .6 | 2,058 | 26 | 1.4 |
| Apples | 42-Pound | 1,167 | 23 | .6 | 7,738 | 7 | 4.1 |
| Potatoes, Fall | cwt. | 47 | 24 | * | 30,137 | 3 | 8.5 |
| LIVESTOCK AND POULTRY: | | | | | | | |
| Eggs | each | 67,000 | 47 | .1 | 2,935,000 | 9 | 4.3 |
| Milk | pounds | 2,397,000 | 15 | 1.7 | 4,682,000 | 8 | 3.3 |
| Wool | pounds | 90 | 33 | .1 | 414 | 29 | .5 |
| Sheep | head | 4.6 | 29 | .3 | 16.5 | 23 | 1.0 |
| Lambs | head | 8.4 | 33 | .1 | 37.9 | 29 | .6 |
| Hogs and Pigs | head | 9.5 | 46 | * | 85.5 | 34 | .1 |
| Cattle | head | 53 | 42 | .1 | 156.8 | 38 | .3 |
| Calves | head | 123 | 28 | 1.2 | 234.5 | 16 | 2.2 |

* Less than .05 percent

FARMS: NUMBER AND LAND, VERMONT AND NEW ENGLAND, 1975 - 1986 1/

| YEAR | VERMONT | | | NEW ENGLAND | | |
|---|---|---|---|---|---|---|
| | NUMBER OF FARMS | AVERAGE SIZE | LAND IN FARMS | NUMBER OF FARMS | AVERAGE SIZE | LAND IN FARMS |
| | | Acres | 1,000 Acres | | Acres | 1,000 Acres |
| 1975 | 6,300 | 281 | 1,770 | 26,120 | 197 | 5,135 |
| 1976 | 6,900 | 257 | 1,770 | 27,960 | 185 | 5,165 |
| 1977 | 6,700 | 261 | 1,750 | 28,300 | 182 | 5,155 |
| 1978 | 7,000 | 250 | 1,750 | 28,700 | 180 | 5,165 |
| 1979 | 7,300 | 238 | 1,740 | 29,900 | 173 | 5,165 |
| 1980 | 7,700 | 226 | 1,740 | 30,660 | 169 | 5,185 |
| 1981 | 8,200 | 220 | 1,800 | 30,920 | 169 | 5,225 |
| 1982 | 7,500 | 227 | 1,700 | 30,000 | 169 | 5,075 |
| 1983 | 7,500 | 227 | 1,700 | 30,200 | 167 | 5,045 |
| 1984 | 7,300 | 233 | 1,700 | 29,650 | 170 | 5,038 |
| 1985 | 7,000 | 229 | 1,600 | 28,950 | 169 | 4,893 |
| 1986 | 7,000 | 229 | 1,600 | 28,550 | 170 | 4,843 |

1/ A farm is a place that sells or normally would sell $1,000 of agricultural products.

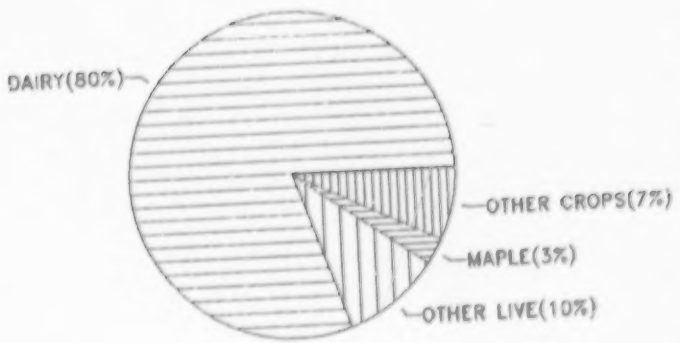
CASH RECEIPTS FROM FARM MARKETINGS, VERMONT, 1983-1985

| COMMODITY | 1983 | 1984 | 1985 | COMMODITY | 1983 | 1984 | 1985 |
|---|---|---|---|---|---|---|---|
| | 1,000 Dollars | | | | 1,000 Dollars | | |
| CROPS | | | | LIVESTOCK | | | |
| Hay | 6,417 | 5,749 | 5,034 | Cattle and Calves | 44,272 | 43,793 | 29,207 |
| Potatoes | 492 | 427 | 323 | Hogs and Pigs | 1,549 | 1,591 | 1,048 |
| Misc. Vegetables | 2,590 | 2,500 | 2,600 | Sheep and Lambs | 632 | 741 | 914 |
| Apples | 6,951 | 6,859 | 7,674 | Dairy Products | 347,916 | 317,826 | 313,290 |
| Berries | 680 | 750 | 795 | Chickens | 161 | 130 | 125 |
| Misc. Fruits | 11 | 10 | 10 | Eggs | 5,472 | 5,618 | 5,081 |
| Maple | 8,366 | 9,063 | 10,211 | Misc. Poultry | 223 | 210 | 165 |
| Forest Products | 5,363 | 5,900 | 6,350 | Misc. Livestock | 1,814 | 1,947 | 2,034 |
| Greenhouse/Nursery | 3,025 | 3,250 | 3,500 | TOTAL LIVESTOCK | 402,039 | 371,856 | 351,864 |
| Misc. Crops | 1,770 | 1,740 | 1,790 | | | | |
| TOTAL CROPS | 35,665 | 36,248 | 38,287 | ALL COMMODITIES | 437,704 | 408,104 | 390,151 |

# VERMONT

## 1985

### CASH RECEIPTS



UNITED STATES: CIVILIAN PER CAPITA CONSUMPTION OF MAJOR FOOD COMMODITIES (RETAIL WEIGHT) 1/, 1977 - 1984

| COMMODITY | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 2/ |
|---|---|---|---|---|---|---|---|---|
| | Pounds | | | | | | | |
| MEATS | 152.3 | 146.9 | 144.8 | 147.7 | 145.2 | 139.3 | 144.1 | 143.7 |
| Beef | 91.8 | 87.2 | 78.0 | 76.5 | 77.2 | 77.2 | 78.7 | 78.6 |
| Veal | 3.2 | 2.4 | 1.7 | 1.5 | 1.6 | 1.6 | 1.7 | 1.8 |
| Lamb and Mutton | 1.5 | 1.4 | 1.3 | 1.4 | 1.4 | 1.5 | 1.5 | 1.5 |
| Pork | 55.8 | 55.9 | 63.8 | 68.3 | 65.0 | 59.0 | 62.2 | 61.7 |
| FISH (edible weight) | 12.7 | 13.4 | 13.0 | 12.8 | 12.9 | 12.3 | 13.1 | 13.6 |
| Canned | 4.6 | 5.0 | 4.8 | 4.5 | 4.8 | 4.3 | 4.8 | 5.0 |
| Fresh and Frozen | 7.7 | 8.1 | 7.8 | 8.0 | 7.8 | 7.7 | 8.0 | 8.3 |
| Cured | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| POULTRY PRODUCTS | | | | | | | | |
| Eggs | 34.0 | 34.6 | 35.3 | 34.6 | 33.8 | 33.4 | 33.1 | 33.0 |
| Chicken (ready-to-cook) | 44.1 | 46.7 | 50.6 | 50.1 | 51.7 | 53.1 | 53.9 | 55.7 |
| Turkey (ready-to-cook) | 9.1 | 9.2 | 9.9 | 10.5 | 10.7 | 10.8 | 11.2 | 11.4 |
| DAIRY PRODUCTS | | | | | | | | |
| Cheese (excluding cottage) | 16.1 | 17.0 | 17.2 | 17.6 | 18.4 | 20.1 | 20.6 | 21.7 |
| Canned and Bulk Whole Milk | 4.3 | 4.2 | 4.1 | 3.8 | 4.1 | 4.1 | 3.9 | 3.8 |
| Fluid Milk and Cream (product weight) | 259.7 | 257.1 | 253.0 | 249.5 | 245.3 | 241.7 | 245.1 | 244.6 |
| Ice Cream (product weight) | 17.5 | 17.4 | 17.1 | 17.3 | 17.2 | 17.5 | 17.9 | 18.0 |
| FATS AND OILS - TOTAL FAT CONTENT | 53.1 | 54.7 | 56.1 | 57.0 | 57.5 | 58.4 | 59.6 | 58.6 |
| Butter (actual weight) | 4.3 | 4.4 | 4.5 | 4.5 | 4.3 | 4.6 | 5.1 | 5.0 |
| Margarine (actual weight) | 11.4 | 11.2 | 11.2 | 11.3 | 11.2 | 11.1 | 10.4 | 10.4 |
| Lard | 2.2 | 2.2 | 2.4 | 2.4 | 2.5 | 2.5 | 1.8 | 2.1 |
| Shortening | 17.2 | 17.8 | 18.4 | 18.2 | 18.5 | 18.7 | 18.5 | 21.3 |
| Other Edible Fats and Oils | 21.0 | 22.1 | 22.4 | 22.7 | 23.5 | 23.2 | 24.8 | 21.2 |
| FRUITS | | | | | | | | |
| Fresh | 79.4 | 80.5 | 81.2 | 86.7 | 83.9 | 83.9 | 87.5 | 86.6 |
| Citrus | 25.3 | 25.6 | 23.7 | 28.1 | 24.2 | 23.9 | 27.7 | 23.0 |
| Noncitrus | 54.2 | 55.0 | 57.5 | 58.6 | 59.7 | 60.0 | 61.5 | 63.6 |
| Processed: | | | | | | | | |
| Canned Fruit | 19.0 | 17.9 | 17.8 | 17.4 | 16.4 4/ | 12.9 4/ | 12.9 4/ | 8.9 |
| Canned Juice | 13.6 | 16.5 | 16.9 | 16.7 | 19.1 | 13.7 4/ | 16.2 | n/a |
| Frozen (including juices) | 14.0 | 12.5 | 12.6 | 13.0 | 12.7 | 14.1 | 15.1 | 13.5 |
| Chilled Citrus Juices | 5.7 | 6.1 | 5.5 | 5.9 | 4.1 | 3.5 | 4.1 | 3.7 |
| Dried | 2.5 | 2.1 | 2.6 | 2.4 | 2.7 | 2.9 | 2.9 | n/a |
| VEGETABLES | | | | | | | | |
| Fresh 3/ | 93.6 | 94.3 | 96.5 | 99.0 | 95.7 4/ | 71.2 4/ | 71.0 | 75.4 |
| Canned (excluding potatoes) | 53.1 | 51.8 | 53.2 | 48.5 | 45.6 | 45.6 | 47.1 | n/a |
| Frozen (excluding potatoes) | 10.2 | 10.7 | 11.2 | 10.4 | 11.6 | 10.7 | 11.1 | 12.0 |
| Fresh Potatoes | 51.5 | 48.8 | 52.1 | 53.9 | 46.3 | 48.1 | 51.9 | n/a |
| Frozen Potato Products | 15.7 | 17.2 | 17.7 | 16.9 | 18.2 | 18.1 | 18.7 | 17.4 |
| Sweetpotatoes 5/ | 4.0 | 3.8 | 4.1 | 3.8 | 3.4 | 4.4 | 4.5 | n/a |
| GRAINS | | | | | | | | |
| Wheat Flour 6/ | 115.5 | 115.2 | 117.2 | 116.9 | 115.9 | 119.6 | 116.1 | 117.8 |
| Rice | 7.5 | 5.7 | 9.4 | 9.4 | 11.0 | 11.8 | 9.8 | 8.6 |
| OTHER | | | | | | | | |
| Coffee | 6.9 | 7.9 | 8.5 | 7.7 | 7.7 | 7.5 | 7.6 | 7.7 |
| Cocoa | 2.6 | 2.6 | 2.6 | 2.6 | 2.9 | 3.0 | 3.3 | 3.6 |
| Peanuts (shelled) | 6.3 | 6.8 | 6.8 | 5.5 | 6.4 | 6.7 | 6.7 | 6.9 |
| Dry Edible Beans | 6.2 | 4.8 | 4.7 | 4.6 | 5.7 | 6.0 | 6.2 | n/a |
| Melons | 19.1 | 19.8 | 18.9 | 16.9 | 18.8 | n/a | n/a | n/a |
| Sugar (refined) | 94.2 | 91.4 | 89.3 | 83.7 | 79.4 | 73.7 | 71.0 | 67.5 |
| Corn Sweeteners 7/ | 39.8 | 43.3 | 47.2 | 52.7 | 58.8 | 63.8 | 69.4 | 77.3 |
| Soft Drinks (gallon) | 33.3 | 35.4 | 36.8 | 37.8 | 38.9 | 39.6 | 40.0 | n/a |

1/ Quantity in pounds, retail weight unless otherwise shown. Data on calendar year basis except for dried fruits, fresh citrus fruits, peanuts, dry beans and rice which are on a crop-year basis.
2/ Preliminary.
3/ Commercial production for sale as fresh produce.
4/ Not comparable to previous years due to crop reporting cutbacks.
5/ Table stock and processed.
6/ White, whole wheat, semolina, and durum flour.
7/ Fructose and glucose.
n/a = not available.